SOUTH DEALER ISSUE
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anadian Fertilizer ales Show Gain of .9% in 1955-56

WINNIPEG—Sales of mixed fertizers and fertilizer materials in Cana-a (including exports) for direct ap-lication to the soil, amounted to ,671,497 tons in the year ended June 0, 1956, according to the annual re-ort on the Canadian fertilizer trade, ssued by the Dominion Bureau of tatistics. This was a 3.9% increase ver the preceding year's total of 1,-08,565 tons.

Sales of fertilizer materials increased 6.5% to 980,508 tons from 921,078 and mixed fertilizers rose .5% to 690,989 tons from 687,487.

Production of fertilizer materials, including such items as ammonium nitrate, ammonium phosphate, ammonium sulphate, superphosphate and cyanamide amounted to 1,331,416 tons compared with 1,198,812 the previous year. The output of mixed fertilizers declined to 710,278 tons from 720,084.

Imports of fertilizers amounted to 907,599 tons compared with 935,338 a year ago while exports totalled 870,-817 tons compared with 817,791.

Most important import items were natural phosphate rock, 492,060 tons; superphosphate 216,887 tons; with muriate of potash, nitrogen solution and sulphate of potash making up the difference.

Canadian exports consisted of 831,-471 tons of materials and 38,346 tons of mixtures representing a 65% increase, in both instances, from the previous year. Ammonium sulphate, ammonium phosphate, ammonium nitrate and cyanamide were the principal materials exported.

New Herbicide Shows Promise In USDA Studies

WASHINGTON — A new herbicide —called TBA—shows considerable promise for controlling weed bromegrasses and wild garlic, the U.S. Department of Agriculture reports.

In experimental studies, this chemical — 2,3,6-trichlorobenzoic acid — gave almost perfect control of these two troublesome weeds, with little or no injury to desirable grasses in forage stands, USDA said.

In tests to control bromegrasses, spray treatment with TBA at 4 and 8 lb. per acre in early March gave excellent control, and caused no appreciable damage to Kentucky bluegrass in the test plots. However, at the 8-lb. rate, growth of bluegrass was somewhat slowed. Treatment at these rates also greatly retarded growth of such unwanted perennials as horsenettle, oxalis, and mouse-ear chickweed for at least the first half of the summer.

Wild garlic was completely eliminated when TBA was applied at 2 and 4 lb. per acre in both fall and spring as repeated treatments. When applied only in the fall at these rates, wild garlic was reduced 46% by the 2-lb. treatment and 90% when 4 lb. were used. As in the treatment of bromegrass, the herbicide was applied at 40 gal. of spray to the acre.

Witco Acquires Ultra

NEW YORK—Witco Chemical Co. has acquired all of the outstanding stock of Ultra Chemical Works, Inc. of Paterson, N.J. The transaction was effected through an exchange of stock. Ultra will now operate as a wholly owned division of Witco with no change in personnel.

"Come Around to Customer's Side of Counter," Oklahoma Fertilizer Dealers Advised

By EMMET J. HOFFMAN
Croplife Merchandising Editor

STILLWATER, OKLA.—The more than 200 registrants at the second annual fertilizer dealers' conference Nov. 28 and the 12th annual crops and soils conference Nov. 29 found full schedules devoted to the theme of "ways and means to merchandise fertilizer" and the practical application and agronomic use of fertilizer.

The conference discussions gave way however during the off-session hours to informal chats about the Southwest drouth and football. Football-minded individuals (and who in Oklahoma isn't?) who wondered whether Oklahoma A&M College would be as gracious a host to the nation's No. 1 team, the University of Oklahoma, as it was to the fertilizer people, found out the answer on Dec. 1 (UO 53-A&M 0).

Certainly the hospitality shown by the college officials to the two-day conference attendants was without reluctance, which may not have been the situation for the visiting football team from Norman.

The fertilizer dealers' conference was sponsored by the Oklahoma Plant Food Educational Society and the crops and soils conference was presented by Oklahoma A&M College. Fertilizer dealers, manufacturers, farmers, ranchers and county agents attended the sessions. The crops and soils meeting, formerly held in the spring each year, was changed so that delegates were able to attend both conferences in one trip.

A 150,000-ton reduction in fertilizer on wheat acreage is probable next year under the Soil Bank. Wheat is the crop which will cause the greatest impact on fertilizer consumption under the Soil Bank, according to Dr. Russell Coleman, executive vice president, National Plant Food Institute.

From 12 to 13 million acres of wheat will be placed in the Soil Bank, estimates Dr. Coleman. Unfortunately, most of these are "distress" acres,

(Continued on page 5)

Government Funds to Make Corn Belt Prime Target for 1957 Sales

WASHINGTON—As the annual outlook conference of U.S. Department of Agriculture economic teams and officials at the operating level wrangled over the effects of the soil bank on production of next year's feed grain crops, there appears to be in the making a policy which may materially influence farm use of fertilizer supplies for the 1957 crops.

Conversations with probable policy makers in USDA now indicate that the corn crop will be the most attractive sales prospect for plant food materials for the 1957 crop, with cotton in the second spot.

The plant food and pesticide industry sales outlook in these fields will be governed by the price support policies which are yet to be announced for cotton and the small grains and soybeans.

The forthcoming referendum (Dec. 11) on the 1957 corn crop will bring a choice between the present acreage allotments under the provisions of the Agricultural Adjustment Act of 1938 and the base acreage allotment of the soil bank act of 1956. The latter carries a price support of $1.36 bu. for 37 million acres, or price support of $1.31 bu. for 51 million base acres of the soil bank with payment eligibility conditioned on removal of 15% of cropland for either the acreage reserve or the conservation reserve phase of the soil bank. This makes the soil bank base acreage reserve phase the most attractive for the corn farmer for the 1957 crop year.

Doubt as to the probability that the corn belt will accept the soil bank

(Continued on page 23)

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Production, Cost Trends Heard at Outlook Session

By JOHN CIPPERLY
Croplife Washington Correspondent

WASHINGTON — Some guideposts to help the plant food and pesticide industries plan for the nearby and long range future were set up in a talk at the annual Agricultural Outlook Conference by Carl P. Heisig, chief, Production Economics Research Branch, Agricultural Research Service, U.S. Department of Agriculture.

Mr. Heisig seemed to suggest that the industries plan to play it safely for the nearby future and use it for a constructive building period for business—and then leap into a new plateau level of business.

In a talk on "Trends in Production, Costs and Technology," Mr. Heisig cited the need of timing for agricultural production in the next five years which will vary widely between crops. Between now and 1960, he told the conference, only a small increase will be needed in certain crops which have been in excess of foreseeable needs. He said we can expect moderate increases in livestock needs, but for wheat and cotton the needs will be reduced.

To the plant food and pesticidal chemical industries this should be a "must" in sales thinking.

Mr. Heisig said that "longer term

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India Asks Bids for Insecticide Plant

WASHINGTON—Tenders for setting up an insecticide plant with a capacity of 1,400 tons of technical DDT per annum have been invited by the government of India at Alwaye in Kerala State, the U.S. Department of Commerce announced Dec. 10.

Offers for the design, supply, installation of plant and machinery and putting the plant into operation should reach the managing director, Hindustan Insecticides (P) Ltd., Industrial Area, New Delhi 15, by Dec. 15. Steam, water and electricity will be made available at suitable points outside the factory.

Specifications and further details are available for review on loan from the Trade Development Division, Bureau of Foreign Commerce, U.S. Department of Commerce, Washington 25, D.C.

Philippines Get $732,000 Authorization

WASHINGTON, D.C.—A $732,000 authorization for the purchase of nozzle tips and 50% wettable powder form of dieldrin has been announced by the International Cooperation Administration, for the Philippines. Terminal delivery date was set at Dec. 31, 1956. Source of this material will be the United States and its possessions, ICA says.

Results of Test Work Heard At South Dakota Short Course

BROOKINGS, S.D. — That ample supplies of fertilizer materials are expected to be available for farmers in South Dakota next year, was brought out by W. A. Stolt, general manager, western division, of the Summers Fertilizer Co., Sioux Falls, in an address before some 85 fertilizer dealers here Nov. 30. Mr. Stolt was one of the speakers at the seventh annual Dealers' Fertilizer Short Course at South Dakota State College. The event is sponsored annually by the school's agronomy department.

Speaking on fertilizer trends and outlooks, he said that today's farmers can obtain the type of fertilizer materials they need without delays, and at favorable prices.

The speaker expressed optimism over the future of the industry, despite some poor responses due to this year's drouth. These conditions, he said, have not killed farmers' enthusiasm for the benefits of fertilizers, although fertilizer sales in South Dakota were considerably off during the past season.

E. Hixson, chief of the Division of Agriculture, South Dakota State College, was opening speaker. He challenged dealers to provide latest information along with fertilizer to customers in order to "keep our farmers in a competitive position."

Speaking on soils of South Dakota was George Buntley, assistant agronomist. He explained how six broad environmental factors interact to form 8,208 separate soil environments in South Dakota—each of which can be broken down into sub-environments. These environments, he emphasized, have a bearing on fertilizer use.

J. R. Runkles, assistant professor of agronomy, explained the role of moisture in fertilization. He said fertilizer gives more efficient use of water needed for yields. He predicted moisture determination would be in recommendations of the future.

Paul Carson, manager of the college soil testing facilities, said soil tests can detect plant food deficiencies before they appear on crops as "starvation" symptoms. He said the lab has handled 12,000 tests in the last two years.

Three other agronomists—Burton L. Brage, Leo F. Puhr and Lawrence O. Fine—explained fertilizer studies and usage in South Dakota under both dryland and irrigated conditions. They showed result after result of response to various treatments of fertilizer in past studies.

Mr. Brage said studies indicated that fertilization of native grasses in Western South Dakota probably would not pay. In contrast, he reported a 1951 trial where 120 lb. of nitrogen, applied in the fall, yielded 57[illegible] pounds of crested wheatgrass seed compared to 25 lb. on the check plot. Spring application at the same rate on this tame grass yielded 235 lb.

Mr. Puhr said efficient use of nitrogen depends on planning its residual effect on future crops. He said cropping replaces about 12% of the nitrogen and 15% of the phosphorous in any one year, thereby requiring replacement of used plant foods.

Mr. Fine discussed fertilizer tests on the Belle Fourche and Angostura irrigation projects in Western South Dakota.

Dealers present voted to continue the short course on a yearly basis rather than every other year which was considered.

Carl Reed, Vermillion, of Bartlett and Co., presided at the morning session. W. W. Worzella, head of the agronomy department, was afternoon chairman.

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Disease Control to Get Emphasis at Cotton Production Conference

BIRMINGHAM, ALA.—Cotton diseases cost farmers more than a million and a half bales in 1955, the Cotton Disease Council estimates.

The loss represented more than 11% of the entire crop, or a dollar value of around 275 million dollars for the lint alone. This figure does not take into account the value of the seed or the loss resulting from damage to lint quality. Boll rots took the heaviest toll, with seedling diseases, verticillium wilt, root knot, and fusarium wilt following closely.

Effective disease control as a means of reducing costs and improving quality will receive special attention at the second annual Belt-wide Cotton Production Conference here Dec. 13-14, the National Cotton Council states.

The conference also will take a close look at another enemy of the cotton farmer, weeds, considered the last big roadblock in the way of complete mechanization of the nation's cotton crop.

Conferees will examine chemical, mechanical and flaming methods of weed control and combinations of these practices. The most economical and practical program for a typical cotton producing farm in the Southeast will be presented.

A farmer, Harrison Evans of Shuqualak, Miss., will tell of his experiences with modern weed control. An outstanding farmer, Mr. Evans has successfully combined weed control practices into an efficient cotton production program. In his talk he will stress the how and why of these practices.

Two other conference talks will deal with research for control of weeds and promising herbicides for weed control.

The conference is sponsored by the council, in cooperation with research and education workers in Cotton Belt land grant colleges, U.S. Department of Agriculture, the agricultural chemical industry and other groups. Between 800 and 900 persons are expected to attend.

Meetings of technical groups on cotton defoliation, disease control, cotton improvement and insect control will precede the production conference.

SALES MANAGER NAMED

ST. LOUIS, MICH.—Michigan Chemical Corp. of St. Louis, Mich., has announced the appointment of Everett E. Klicker as sales manager in the rare earths and thorium division. His headquarters will be in St. Louis where rare earths research, pilot plant and production facilities are located.

Fred O. Church

ROMOTION—The chemical division f Merck & Co., Inc., Rahway, N.J., nnounces the promotion of Fred O. hurch from merchandising special- t in industrial and agricultural hemicals to marketing manager, gricultural chemicals. The appoint- ent is effective immediately. Mr. hurch joined Merck in 1935. In 952 he became assistant to the man- ger of the general sales department, which capacity he was concerned ith sales to the feed and flour in- ustries. He was made merchandis- g specialist in industrial and agri- ultural chemicals in 1954. Mr. hurch is a graduate of Williams ollege, where he majored in chem- try.

California Board Of Agriculture Hears Medfly Control Report

SAN FRANCISCO—Loren F. Ste- ner, U.S. Department of Agriculture esearch entomologist, reported on he status of the Mediterranean fruit y campaign in Florida to the Cali- ornia Board of Agriculture recently.

Mr. Steiner has been advising the USDA and Florida Plant Board offi- ials in the Florida Medfly eradica- ion project. He said the Medfly was ntroduced in the summer of 1955 but vent undetected until April of this ear, by which time it had spread in- o 27 different counties. At present, 4 of these counties are still under reatment for light, scattered Medfly nfestations, said Mr. Steiner.

"No target date for complete eradication can be set," he report- ed, "but progress made to date would indicate that the Medfly should be eliminated from Florida within the next six months." Mr. Steiner told the California Board of Agriculture that many more months of survey and trapping will be necessary before Florida can be considered free of the fly and all quarantines lifted.

Contracts calling for the use in the Florida Medfly spray campaign of multiple engine planes, some owned by United Heckathorn of Richmond, Cal., will soon be completed and prob- ably will not be renewed because progress in eradication is such that the remaining small, scattered infest- ed areas can best be handled by small single engine planes, Mr. Steiner said.

Medfly detection surveys have been underway since midsummer in Cali- fornia.

SOIL DIFFERENCE

LAFAYETTE, IND.—Two Purdue University agronomists, William Bis- hop and Stanley Barber, have dis- covered that soils—classified as Lake Plain soils—found in an area east of Fort Wayne contain more calcium phosphate and less iron and alumi- num phosphate than soils outside the area.

Alabama Pest Control Program Details Planned

AUBURN, ALA.—The first annual meeting of the Alabama Association for Control of Economic Pests will be held in conjunction with the tenth Alabama Pest Control Conference, Feb. 19 and 20 at the Alabama Poly- technic Institute Agricultural Experi- ment Station, Dr. U. L. Diener, Ex- periment Station assistant plant pa- thologist, program committee chair- man, has announced.

Members of the program committee met at Auburn recently to make plans for the joint meetings. Programs on controlling plant diseases, weeds, in- sects, rodents, and nematodes will be presented during the conference, ac- cording to Dr. Diener.

The 1957 Pest Control Confer- ence is being sponsored by the As- sociation for Control of Economic Pests. This group was organized at the 1956 Pest Control Conference.

Committee members attending the program planning meeting were: Wade Allen, Troy; George Blake, Jr., Experiment Station assistant ento- mologist; Dick Bowden, Montgomery; T. J. Cavanagh, Mobile; Jimmie Simms, Montgomery; Dr. Diener; J. T. Etheredge, Opp; Mrs. E. R. Mc- Lendon, Birmingham; V. S. Searcy, Experiment Station assistant agrono- mist; George Wilson, Summerdale; and B. P. Livingston of Montgomery, co-chairman of the committee. Other association members and officers at- tending were: G. R. Williamson of Montgomery, president; W. G. Eden, Experiment Station entomologist, secretary-treasurer; and Asa Round- tree, Alabama Department of Aero- nautics.

FLORIDA CONSUMPTION

TALLAHASSEE, FLA.—Fertilizer consumption in Florida during Octo- ber totaled 179,826 tons, according to the Florida Department of Agricul- ture. This total included 119,215 tons of mixed goods and 60,611 tons of materials.

Research Group to Build New Station

PLAINVIEW, TEXAS—The Texas Research Foundation of Dallas will soon start work on another experi- ment station at Halfway, a small vil- lage near Plainview. The land has al- ready been purchased and 200 acres has been plowed by farmers who donated their services. A storage barn for farm equipment is slated for con- struction soon.

Dr. T. C. Longnecker, director of the foundation, says an important part of the station's early work will be with soybeans. He says they hope to develop a strain that will be adapt- ed to rotation farming in the Plains area.

Part of the financing of the sta- tion's operations will be undertaken by farmers of this area. Representa- tives from 15 communities have plan- ned to meet and work out plans for raising the money needed.

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FLY CONTROL TESTS SUCCESSFUL

Severe Corn Borer Year Ahead, New Jersey Meeting Warned

NEW BRUNSWICK, N.J. — New Jersey farmers can look for "lots of trouble" from corn borers next year, and that goes for potato growers, too.

The borer picture this fall was an "awesome" one, Dr. Leland G. Merrill, Rutgers extension entomologist, said at the annual Rutgers pesticide dealers' conference Nov. 29. He reported finding three or four borers to the stalk of corn and as many as 10 or 12 to 18 in. of potato vine.

Dr. Merrill said it was brought home to him and to others fighting the borer menace this year that the white potato is the preferred host. Borer damage encouraged development of blackleg disease.

A borer count this fall disclosed just about twice as many as last fall, and there were fewer predators. But it doesn't follow that borers will be twice as bad next year, Dr. Merrill told the dealers and formulators. The situation will be followed closely, he said, and forecasts will be issued.

Dr. Spencer H. Davis, Jr., extension plant pathologist, co-chairman with Dr. Merrill in arranging the conference, reminded dealers of constantly growing opportunities to make sales to home owners. This is especially true in New Jersey, where as many as 200 homes may be built on a former farm.

Furthermore, continued Dr. Davis, home gardeners are less conscious of price than are farmers. Not all dealers are aware of their new opportunities, he said, even when station wagons outnumber by far the farm trucks in their parking lots.

Often, helpful information given to a home gardener instead of always trying to make a sale will make a regular customer of him, and he'll cheerfully pay his bill when he needs supplies rather than advice, Dr. Davis said.

Rutgers tests with fly control in dairies last summer proved that spraying definitely pays, commented Dr. Elton J. Hansens, Rutgers entomologist. He told how flies were counted and milk production was measured on two Salem County farms for six weeks. There was a $6 increase per cow on one farm and a $4 increase in income per cow on the other.

Many departments at the New Jersey State University submitted their tentative control recommendations for 1957 in mimeograph form.

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ICA Authorizes $10 Million Fertilizer Grant to Korea

WASHINGTON, D.C.—The International Cooperation Administration has announced the authorization of $10 million in fertilizers for the Republic of Korea, terminal delivery date of which is March 30, 1957.

Of this amount, some $7 million are for nitrogenous fertilizers, $280,000 for potash, and $2,720,000 for phosphate and other fertilizer materials, including mixed fertilizers. Source of these materials is listed as being on a world wide basis.

In addition, the ICA has also announced another $4 million authorization for fertilizer for Korea, terminal delivery date of which is May 31, 1957. This portion carries a barter provision by which "any offer to supply commodities hereunder, involving a sales price of $100,000 or more, made on a bid basis pursuant to an invitation for formal bids, and which express a willingness to accept surplus agricultural commodities from the CCC as full payment in lieu of dollars, shall have preference over any other bid/offer where price and other terms of the bid/offers are equal."

Of the $4 million authorization, $3 million are for nitrogenous fertilizer; $100,000 for potash and $900,000 for phosphate and other fertilizer materials, including mixed goods.

Diamond Alkali Makes Export Appointment

NEW YORK — Fernando Castillo G-N has been appointed to the newly-created post of field supervisor of technical sales and services—export for Diamond Alkali Co., Cleveland, it was announced here by S. S. Savage, director of export sales.

Mr. Castillo joined the Diamond organization in September, 1954 as a technical sales representative and since then has traveled through Latin America, concentrating on field demonstrations of Diamond agricultural chemicals.

In his new post he will be responsible for sales development of these chemicals, working closely with the company's agents and distributors in Central and South America.

Born in Jaen, Spain, Mr. Castillo earned a B.S. degree from the University of Granada, College of Science, in 1930, and received a degree in agricultural engineering at the Instituto Nacional Agronómico, Madrid, Spain, in 1934. He then took postgraduate studies in plant pathology for one year at the Imperial College of Science, London, England.

A resident of Mexico for the past 15 years, Mr. Castillo was manager, Agricultural Chemicals Division, Bunge-Mexico, prior to joining Diamond.

South Carolina Pest Control Operators Organize

CLEMSON, S.C. — The structural pest control operators of South Carolina attending a meeting at the Clemson House Nov. 27-28 elected to organize a state association.

Fred P. Wright of the Wright Pest Control Co., Aiken, was appointed temporary chairman and E. D. Robbins of Modern Exterminating Co., Rock Hill, temporary secretary.

A temporary committee was designated to draw up a constitution and by-laws for the new organization. Appointed to this committee were S. D. Braswell, Efird's Exterminating Co., Spartanburg; W. G. Ford, Atlantic Pest Control, Charleston; D. L. Holt, Orkin Exterminating Co., Columbia, and T. P. Knox, Jr., Terminix Services, Inc., Columbia.

A second meeting of the structural pest control operators in the state is tentatively scheduled for Feb. 8-9 at Columbia to consider the adoption of a constitution and by-laws.

OKLAHOMA CONFERENCE

(Continued from page 1)

which means that the surplus will not be depressed much, he said. About 3 million acres of cotton may go into the Soil Bank.

"The Soil Bank has captured the imagination of the public as well as the farm population," Dr. Coleman said. He said that $1.2 billion has been allocated by the government for the Soil Bank and that "most assuredly all of it will be spent."

Dr. Coleman said our so-called surplus is not as serious a problem as some people may suppose. "Any breakout or emergency situation could readily wipe out our surplus of farm products. The $8-9 billion invested in surplus farm commodities is small when compared with the $60 billion in excess war equipment held following World War II."

Dr. Coleman said the drouth in Southwest regions "completely subjugates every other topic among agricultural interests." He said some good rains would solve most of the problems of fertilizer manufacturers and distributors in the Southwest.

"Come around to the customer's side of the counter," warned Harry Canup, director, business extension service, Oklahoma A&M College, who spoke on the topic of "Got a Problem?—Sell It." "By getting the customer's side of a proposition you may learn that you have filled your reasoning and rationalization with your own viewpoint. If so, you are in trouble sales-wise. However, you can give your selling new impetus by looking through the eyes of the customer. Your sales problem is usually not too tough. It's your method that is too soft."

Mr. Canup said "⅔ of all our problems are people and ⅓ or less is things, circumstances or situations such as a drouth. The latter ⅓ cannot be changed. But people can be changed. People can be sold on: (1) change, (2) agreement and (3) participation."

"People will buy your goods and services and pay money for them if you will sell them. Selling is fundamental, no matter what the product or service is," Mr. Canup said. "A salesman is a person who helps people want things, to be and do something because it benefits them. The key word is 'help.' Take a look first at what you have to sell in order to be a successful salesman. Then, determine what are its benefits and results to the customer."

Mr. Canup said most salesmen want to sell because of their own selfish interests but the customer is not interested in these. Solving a sales problem can be accomplished in 50% of all cases by realizing your own ineptness and determining where the fault actually lies. The easy way out is for the salesman to blame someone else.

"Fertilizer needs of all U.S. soils fall into three basic ratios and matching grades," claimed Dr. Frank Boyd, agronomist, Virginia-Carolina Chemical Corp., Atlanta. These categories are:

Varying nitrogen with equal P-K as in 5-10-10 (4-12-12), and 0-14-14.

Varying nitrogen with high P-low K as in 5-10-5 (4-16-8), 0-20-10 and 10-20-0.

Varying nitrogen with low P-high K as in 3-9-18 (4-8-16) and 0-10-20.

The grades in parentheses show the proper relationship between the three groups.

"When we know what the ratios are we know the kind and amounts of fertilizer to apply," Dr. Boyd said. He explained that his theory on the three basic fertilizer ratios and matching grades calls for "varying nitrogen" because the nitrogen need in Oklahoma—as it is in every state—is continuing and steady. He continued:

"Many Oklahoma soils are extremely low in organic matter (source of soil nitrogen), therefore, for all practical purposes the total nitrogen requirement of all crops must be supplied largely through legumes, manures and commercial sources. World renowned agricultural scientists have pointed out to us that N-P-K to share co-equally in normal plant production must be taken up in the ratio 5N-1 P_2O_5-1.7 K_2O for maximum growth and yield. This is a basic theory in the co-equal performance of N-P-K.

"In practice, however, we supply more than is consumed to assure crops getting their maximum requirement which accounts for our over-all approach to the 1-1-1 ratio. Since the total nitrogen needs cannot be conveniently supplied in mixed goods, this element (N) may be applied before, at time of, or after planting, or in a combination of these methods to better suit the needs of soils and crops and farm management practices. Thus we have the significance of 'varying nitrogen.' It is not practical to establish basic or standard ratios of nitrogen (N) as related to P and K in complete fertilizers (N-P-K) since the need for, and method, time, and rate of applying nitrogen varies so widely from farm to farm and from season to season. Certainly, the use of nitrogen entails varying procedures.

"On the contrary, needed ratios of the primary mineral plant foods, phosphate and potash, being less mobile in the soil, are more easily established and maintained. The P and K content of Oklahoma soils is quite variable and is generally inadequate to produce desired yields. Most crop soils need help from fertilizer to insure profitable production," Dr. Boyd stated.

"The fertilizer needs of an individual farm will most certainly fall in one or the other of the basic ratio-grade groups," Dr. Boyd claimed. "The question is, which one? Modern day farmers are demanding a specific recommendation, yes, a prescription for each field and crop. Only a soil test can answer this question."

Dr. Boyd continued: "Today, we have the results from more than 40,000 soil samples as determined by the several soil testing laboratories which point out the low-medium-high status of both phosphate and potash in Oklahoma soils. The table shows the results:

Phosphate and Potash Status in Oklahoma Soils

Sample numbers	—Phosphate—% as— Low	Medium	High
12,000	51	18	31
43,000	59	41	..
Sample numbers	**——Potash—%as—— Low**	**Medium**	**High**
12,000	18	26	56
43,000	27	31	42

Dr. Boyd went on: "We calculate from the low-medium-high P-K data shown here that Oklahoma should use the basic ratio-grades.

"Industry is not now selling the

(Continued on page 22)

IN SUGAR BEETS, POTASH-ENRICHED FERTILIZERS MAKE THE DIFFERENCE

with sufficient potash

without sufficient potash

Today's experienced farmer knows the importance of replenishing his soil regularly with balanced fertilizers. Whether he grows sugar beets or soybeans, good soil—through balanced fertilizers—makes the difference. And it's the potash in these fertilizers that protects crops from plant diseases, improves quality and yield.

USP's high-grade muriate of potash has the highest K_2O content and is free-flowing and non-caking—important advantages in the manufacture of these modern fertilizers which help American farmers to better crops and better incomes.

UNITED STATES POTASH COMPANY

DIVISION OF UNITED STATES BORAX & CHEMICAL CORPORATION

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Southern Sales Office

Rhodes-Haverty Building, Atlanta, Georgia

HIGRADE MURIATE OF POTASH 62/63% K_2O

GRANULAR MURIATE OF POTASH 60% K_2O MIN.

REG. U.S. PAT. OFF.

Advisory Group Stresses Need for Forest Research

WASHINGTON—New and expanded research to help owners of small forest properties make a larger contribution to the supply of high-quality forest products needed to meet this country's rapidly increasing demands was urged by the U.S. Department of Agriculture's Forest Research Advisory Committee at its recent annual meeting in Washington.

The committee pointed out that about 60 percent of U.S. forest resources belong to some 4½ million owners whose individual holdings range from 40 to 200 acres.

Also emphasized in the group's discussions was the need for increased research on means to improve forest range and watershed management, to give better protection to forests against fires, insects and diseases; to encourage satisfactory multiple use of forest lands for development of fish, game, and recreational resources, as well as for timber and livestock production; and to improve the utilization of forest products, including gum naval stores and maple products.

In recommending stepped-up research on various phases of forest protection, the committee cited information from USDA's Forest Service indicating that insects, diseases and fire kill about 13 billion board-feet of saw timber every year, more than a fourth of the annual net growth.

USDA plans for current forest-research activities were reviewed and approved by the committee. Among the programs considered as high-priority requirements were the following:

Forest Management—Studies of forest regeneration techniques, especially for use in western brush lands, in mixed-species forests in the Pacific Northwest and Alaska, and in hardwood plantings in the East and North; research on tree physiology, especially as related to fertilizing forest stands.

Forest Protection—Strengthened research on forest-fire prevention and control; expanded work on prevention and control of forest nursery diseases, on control of tree-root diseases and forest insects, and on improved methods of evaluating the destructiveness of insect outbreaks in their early stages.

DOW RADIO SHOW

MIDLAND, MICH.—The Red Foley radio show will be sponsored by Dow Chemical Co. to promote the sale of agricultural chemicals and penta wood preservatives for farm use, William F. Richards of Dow's advertising department reports. The half-hour show will be heard each Saturday at 12:30 (CST) over about 275 ABC-affiliated stations, beginning Jan. 19.

Louis H. Wilson

HEADS COUNCIL—Louis H. Wilson, Washington, D.C., was elected president of the Agricultural Relations Council at its convention recently. The council is made up of approximately a hundred public relations executives in the agricultural field. Mr. Wilson is secretary and director of information of the National Plant Food Institute, and succeeds John J. Lacey, Chicago, American Farm Bureau Federation, as president of the council.

Over 500 Expected at California Weed Session

FRESNO, CAL.—More than 500 delegates are expected to attend the ninth annual California Weed Conference in Fresno, Jan. 22-24. Conference sessions will be held at the Memorial Auditorium, 1230 N St.

Attending the meeting will be farmers, state and federal weed workers, irrigation and reclamation officials, county agricultural commissioners, farm advisers, representatives of chemical companies manufacturing weed control materials, farm equipment distributors, farm editors, agricultural students, agricultural pest control operators, and others.

Announcement of the program for the sessions will be made soon.

Arrangements for the conference are being made by James W. Koehler of Pomona, president of the California Weed Conference, and John L. Polson, of Fresno, chairman of the arrangements committee. Mr. Koehler is district supervisor of rodent and weed control, Bureau of Rodent and Weed Control and Seed Inspection, California Department of Agriculture. Mr. Polson is supervisor of rodent and weed control of the Fresno County Department of Agriculture.

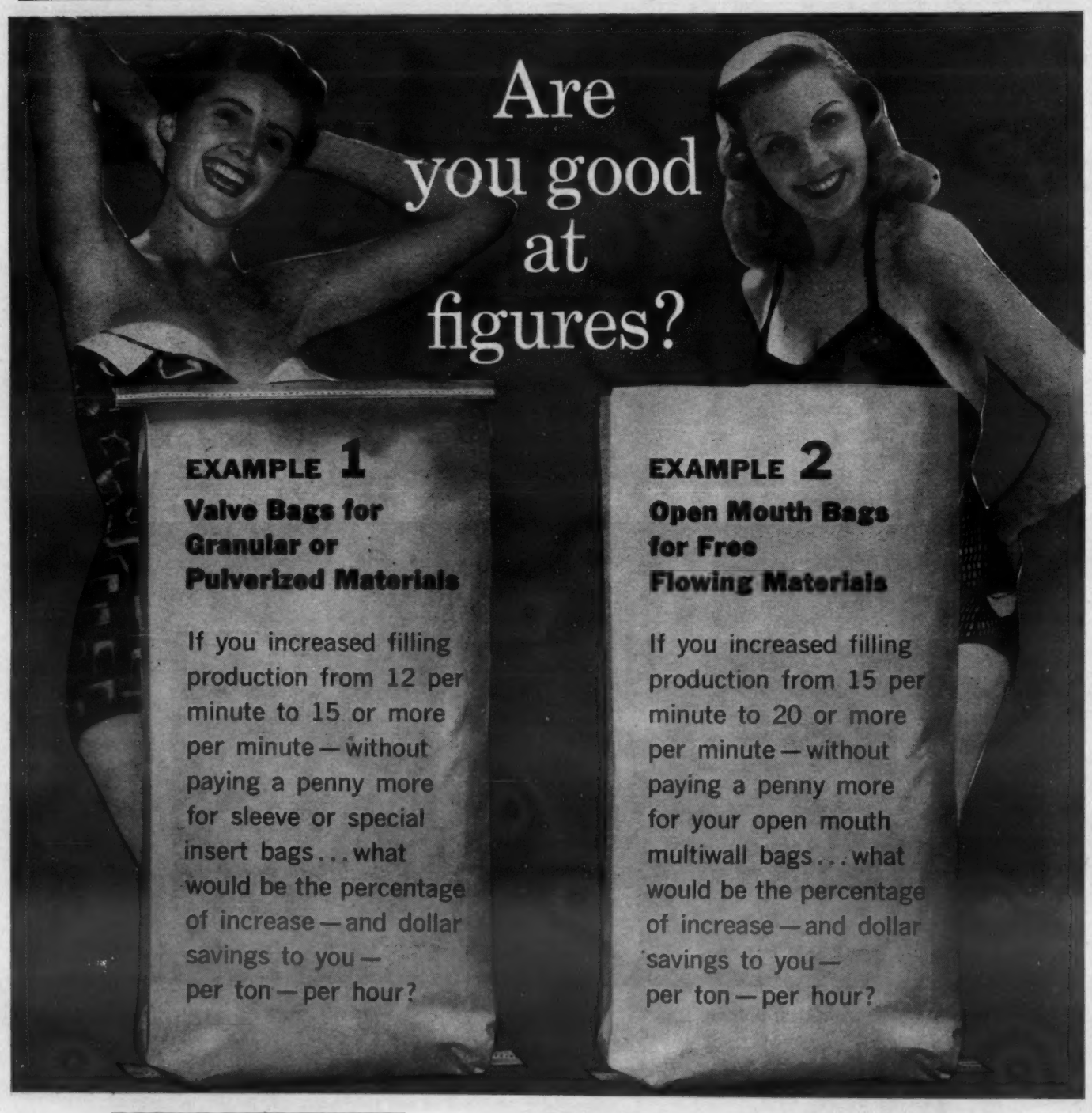
Other officers of the California Weed Conference are Vernon L. Cheadle, vice president, head of the botany department, University of California at Davis; O. A. Leonard, secretary, associate botanist, botany department, University of California at Davis, and J. T. Vedder, treasurer, Sunland Chemical Co., Fresno.

Spray Job Completed

SAN FRANCISCO—Aerial spraying for control of the spruce budworm epidemic in infested stands of Douglas Fir in several areas in Montana and northern Idaho has been completed for 1956. A total of 923,000 gallons of insecticide was sprayed on 885,22[illegible] acres of infested forest land.

MWSIC MEETING DATES SET

CHICAGO—The Middle West Soil Improvement Committee will hold its annual meeting with college agronomists and the plant food industry at the Edgewater Beach Hotel, Chicago, Feb. 14-15, according to Zenas N. Beers, executive secretary. Program details are taking shape but have not been announced as yet.


Are you good at figures?
EXAMPLE 1
Valve Bags for Granular or Pulverized Materials
If you increased filling production from 12 per minute to 15 or more per minute—without paying a penny more for sleeve or special insert bags...what would be the percentage of increase—and dollar savings to you—per ton—per hour?
EXAMPLE 2
Open Mouth Bags for Free Flowing Materials
If you increased filling production from 15 per minute to 20 or more per minute—without paying a penny more for your open mouth multiwall bags...what would be the percentage of increase—and dollar savings to you—per ton—per hour?

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- ☐ We are interested in Example 2.
- ☐ We are interested in both examples.

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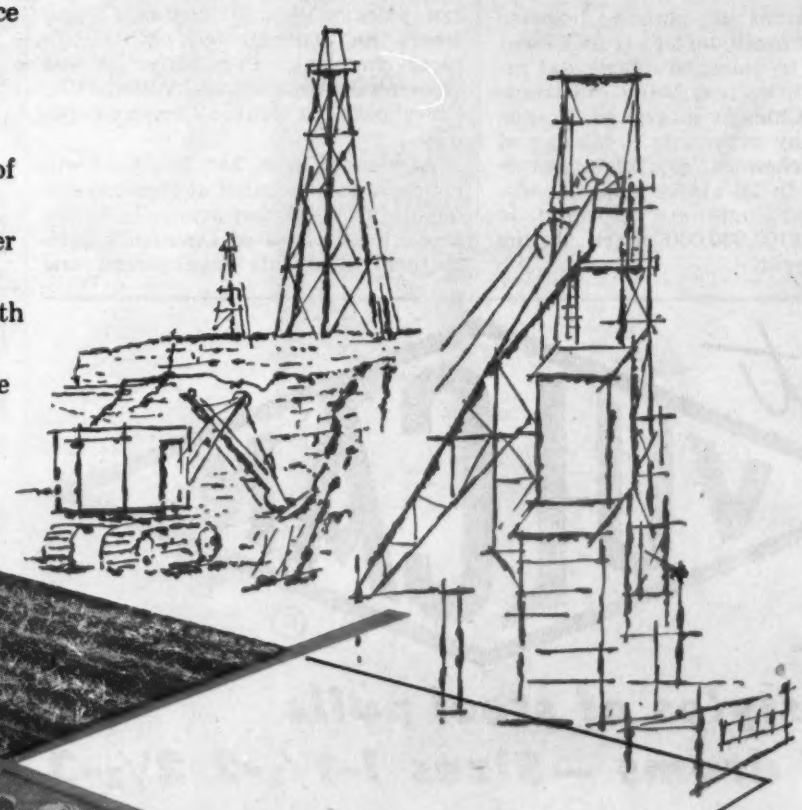
Give us the time to give you the facts!

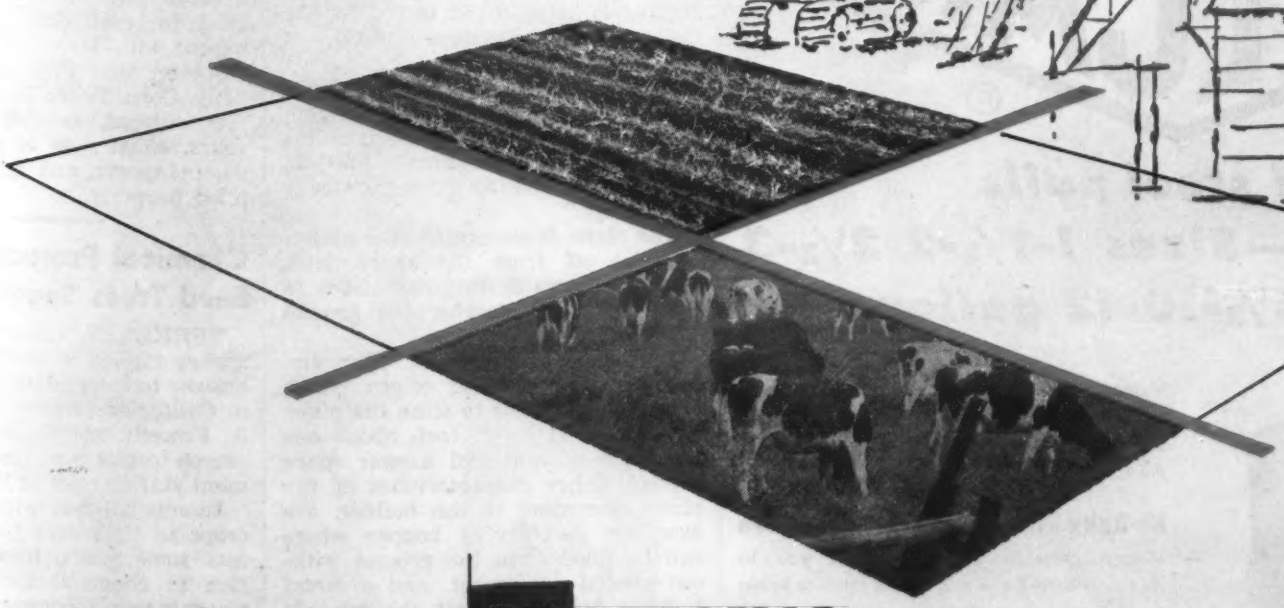
Dependable as a service for 3 generations. Exclusive Sales Agents for the Kraftpacker Automatic Filling Machine and one of the largest integrated producers of multiwall bags with plants in St. Marys, Georgia and Gilman, Vermont, manufacturing every type of multiwall bag in use today!

a joint venture in Potash

A new, substantial and dependable source of potash for fertilizer manufacturers is being developed by National Potash Company in New Mexico.

National Potash is a joint undertaking of Pittsburgh Consolidation Coal Company and Freeport Sulphur Company. The former is one of the nation's major coal firms, the latter a leading producer of sulphur with additional interests in oil and other minerals. The skills which they bring to the mining, refining and marketing of potash assure top quality, uniformity and service.





NATIONAL POTASH COMPANY

205 EAST 42nd ST. • NEW YORK 17, N.Y.

Shell Chemical Film Shown in Kansas City

KANSAS CITY—"The Rival World," a color movie showing how the inhabitants of the insect world bring death to half of the humans who die and destroy one third of all the food man grows, was shown at a special preview here last week.

The picture, produced by Shell Chemical Corp., tells how science is meeting this threat and shows some of the methods used in fighting enemy insects. It follows the worldwide insect attack against man and his food, from the malaria-infested areas of Africa to the fruit orchards of Europe, from the wheatlands of the West to the tea gardens of the East.

The color and sound movie has a running time of 27 minutes. It has won awards at film festivals in Italy, Holland, Scotland, Ireland and Uruguay.

The picture is being made available free to organizations that want to show it. Prints may be obtained by writing Shell Oil Co., Film Library, 624 S. Michigan Ave., Chicago, Ill.

International Moves to New Offices in New York

NEW YORK—As part of an overall expansion program, the New York offices of International Minerals & Chemical Corp. were moved Dec. 3 to larger quarters in the new building at 485 Lexington Ave. The corporation has leased the 27th floor.

International also plans to transfer its national headquarters from Chicago in 1958 to enlarged offices and research facilities now being constructed in the Chicago suburb of Skokie. The company maintains 70 mines and refineries, chemical and manufacturing plants in 26 states and Canada. Sales of products are expected to pass the $100,000,000 mark during the next year.

Herman E. Meadows

Diamond Appoints Two in Chlorinated Products Division

CLEVELAND — Appointments of Herman E. Meadows and George F. Ham to the technical service staff of Diamond Alkali Co.'s chlorinated products division was announced here Dec. 4 by J. W. Kennady, agricultural chemicals sales manager.

Mr. Meadows takes over his new assignment following four years as a member of the company's southwestern sales staff at Houston, Texas, where he concentrated on agricultural chemicals. Previously, he was associated with Sherwin-Williams Co., Cleveland, in a technical service capacity.

At his new post, Mr. Meadows will continue to be located at Houston and devote his attention primarily to the insecticidal phase of Diamond's agricultural chemicals development and

George F. Ham

service program throughout the southwestern states. He will report to the company's technical service headquarters at Painesville, Ohio.

A native of Louisiana, born in Elton, Mr. Meadows is a World War II veteran, having served as a first lieutenant in the medical service corps of the Army from 1942 to 1946. He was graduated in 1941 with a B.S. degree in agronomy from Southwestern Louisiana Institute, Lafayette, and has taken additional studies toward his master's at Ohio State University, Columbus.

Mr. Ham, with headquarters at Painesville, will specialize in herbicidal research and application problems. He was previously associated in a sales capacity with two other chemical producers.

After seven years' service as a chief petty officer in the Navy, Mr. Ham attended the University of Tennessee, Knoxville, graduating in 1950 with a B.A. degree in entomology. He earned an M.S. at Ohio State University in 1951, and took postgraduate studies there from 1953 to 1955 toward his doctorate.

New Crop Dusting Plane Being Tested

SACRAMENTO, CAL.—A new airplane designed especially for crop dusting is being flight tested by the Gail Aircraft Engineering Co. of Sacramento.

E. W. Gardenhire, who designed the plane, said, "we are working to build a plane which would use less horsepower for a normal, 1,000-lb. load and be able to fly more slowly and safely."

The plane demonstrated the ability to take off from the short fields typical of crop dusting operations in flight tests by clearing the ground after a run of 240 feet.

An unusual feature of the aircraft includes folding wings which permit an operator to store the plane in a space 11 by 25 feet, about one third the conventional hangar space needed. Other characteristics of the plane, according to the builder, are excellent visibility, a hopper which can be filled from the ground without special equipment, and a metal rollover bar to protect the pilot in case of a ground loop.

Federal Regulation of Crop Dusters Discussed

SACRAMENTO, CAL.—A proposal for federal regulation of agricultural aviation was brought before the third annual meeting of the Agricultural Aircraft Council for 11 western states at Elko, Nev. recently.

Charles H Branstetter, Jr., Sacramento, council chairman, said the proposal would call for civil aeronautics administration of crop dusters. "Also under discussion was federal and state cooperative contracts, such as forest spraying and grasshopper control," he said.

Good Results Noted From Ground, Air Spraying in Iowa

AMES, IOWA—Surveys on Iowa crop acres treated for insects indicated that both ground and air sprayers were well used last summer.

A random selection of 13 farmers in Decatur County reported treating a total of 650 acres for grasshoppers, an average of 50 acres per farmer, according to Harold Gunderson, extension entomologist at Iowa State College.

On this basis, 1,500 farmers in the county would have treated an estimated 75,000 acres. On the basis of the trend reflected in this survey, Mr. Gunderson believes the total number of acres treated for grasshoppers in Iowa this past year would probably run at least 2½ million acres.

Mr. Gunderson adds that there is agreement among farmers that the percent of kill from grasshopper control chemicals was exceptionally good this year.

The number of sprayers sold to farmers also was high this year. In Van Buren County, for example, at least 100 sprayers were sold in the month of June alone. In Decatur County, the same group of dealers reporting no sprayer sales a year ago last June, report they sold 35 sprayers during the same month in 1956.

Mr. Gunderson reports that in one insect control survey, 54 questionnaires were sent to custom airplane and ground operators.

Out of 23 questionnaires returned 17 custom operators reported treating 78,855 acres for grasshoppers by air. Twelve custom operators said they treated a total of 15,588 acres for first-brood corn borer. Four operators reported treating a combined total of 4,743 acres for second-brood corn borer.

One airplane operator ran a test on second-brood corn borer control. According to his findings, the treated area yielded 7 bu. per acre more than the untreated.

Other operators commented on the greater ease of applying granular DDT for corn borer and better apparent kill. Mr. Gunderson reports however, that 1956 tests at the Ankeny Corn Borer Research Laboratory showed, as they have in past years, equal rate of corn borer kill where sprays and granules are applied properly.

Chemical Protection of Seed Trees Suggested

BERKELEY, CAL.—Chemical sprays applied by aircraft may be the answer to insect damage of seed trees in California forests, according to H. A. Fowells and G. H. Schubert, research foresters on the federal experiment station staff in the state.

Insects all but wipe out the seed crops in California pine and fir forests some years, they say. In addition to chemical sprays applied by aircraft they recommend metal bands or wire barriers be placed around tree trunks to keep squirrels out of seed trees and rodent control measures be taken to protect seed on the ground.

Missouri Liquid Company Reorganized

CHARLESTON, MO. — The Semo Liquid Fertilizer Corp. here has been reorganized under the leadership of John Wilson in cooperation with several cotton ginning firms in the area.

The manufacturing plant has been completely redesigned and equipped by Elsworth Equipment & Engineering Co. of Indianapolis. Capacity is 15 tons per hour of complete liquid fertilizer.

at VULCAN ®

All styles of steel pails and drums —Sizes 1-1½-2-2½-3 3½-4-5-6-6½-10-12 gallons

Available with all types Nozzles and Pouring Spouts

Vulcan makes the finest open head steel pails and closed head drums in the above sizes... Every pail thoroughly tested... All meet rigid I.C.C. specifications.

Hi-Bake Linings Assure Protection

Vulcan chemists will work with you to develop a Hi-Bake protective interior lining to meet your specifications and packaging problems... Your assurance of "positive product protection." Complete facilities available to design and lithograph your Brand Name on any size or style container.

If we don't have what you want—we'll design it!

Call or write today for samples and more information.

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Representatives in all Principal Cities

40% profits for you!

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- INSECTICIDES
- FUNGICIDES
- WEED KILLERS
- HOUSEHOLD SPRAYS

TURN PAGE →

FOR MONEY MAKING DETAILS

40% profit for you!

HERE'S HOW YOU'LL MAKE MORE MONEY WITH

Niagara

GARDEN DUSTS AND SPRAYS

HARD HITTING SALES AIDS AND CONSUMER ADVERTISING

A complete assortment of attractive point-of-sale material is furnished *free* to Niagara dealers—also envelope stuffers, mats, folders—all designed to draw customers into your store and sell them *at the highest profit margin* ever! And Niagara will support dealers in 1957 with the largest newspaper and magazine advertising campaign in history.

They're Growing Em Bigger and Better these days with
Keep It Clean
Your Garden We Mean
"Jeepers I've got Creepers"
Sentimental About Your Ornamentals?

Dominant Garden Magazine and Newspaper Ads

Window Banners, Consumer Folders, Counter Cards, Display Racks

EXCLUSIVE FORMULAS, COLORFUL PACKAGES WITH SELF-MERCHANDISING LABELS

pomogreen FOR ROSES

Practically every gardener grows roses and needs this effective formulation for bugs and blights. Green color blends with foliage. A fast moving, big profit item.

SAFE garden dust

This all-purpose pesticide effectively protects flowers and vegetables. It is *completely safe* for food crops. Sells fast to those gardeners who hesitate to use poisonous chemicals.

ornamental dust or spray

Foundation plantings common to all new homes offer a vast market for this exclusive green-colored product with *big profits* for you.

plus 24 other formulations

. . . including dusts or sprays for fruit trees, flowers, vegetables, household insects, lawn insects, weed and brush killers, rodenticides.

Niagara Chemical Division

FOOD MACHINERY AND CHEMICAL CORP.
MIDDLEPORT, NEW YORK

Gentlemen:

Please send me your Niagara Garden Products line catalog sheets, price lists and full details of your merchandising plan.

I am a retail dealer ☐. I am a distributor ☐. (Please check one)

FIRM NAME_____

YOUR NAME_____

STREET_____

CITY_____ ZONE_____ STATE_____

USE THIS COUPON

To get a copy of our big, colorful catalog and 1957 price list with complete details of our merchandising services and profit making plans . . . just

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Niagara CHEMICAL DIVISION

FOOD MACHINERY & CHEMICAL CORPORATION

Middleport, N. Y.

Special Retail Section

Better Selling

Richer Fields for Dealers

A SPECIAL CROPLIFE DEPARTMENT TO HELP RETAILERS IMPROVE MERCHANDISING KNOW-HOW

Is Something Growing at Your Store?

A Demonstration Garden Will Boost Sales by Showing Customers What Your Products Can Do

By AL P. NELSON
Croplife Special Writer

Fertilizer is a product which helps plants to grow better and to yield more crops. Soil fumigants destroy pests which would eat growing plant roots and then wither the plant. Insecticides, spray or dust form, attack pests which grow on foliage above the ground, so that the plants can mature and bear good fruit in due season.

What does this "growing" process mean to the alert farm supply dealer? It should mean that somewhere in his store or on his premises he should have "growing things." This can be one or two healthy, green leaved plants in the store, or preferably it should be a small miniature garden adjacent to the store, used largely for demonstration purposes.

Dry fertilizer offhand does not seem to have any growing properties. Show a bag of fertilizer to a farmer, and if he didn't know that fertilizer produces more and better crops, he would not see much connection between the fertilizer and the object he has in mind—more plant food for him to use at a profit.

But, if you as a dealer can talk about a certain analysis fertilizer, then ask the farmer to step outside, then show him sweet corn growing in a demonstration garden—ground you have enriched with the fertilizer such as you are trying to sell to him—then your sales talk takes on considerably more power.

If you did not have a demonstration garden this year, think seriously about planning now to have one for next year—so that your sales may rise. Pick out the garden site—the closer it is to your store the better.

One dealer whom I visited made a splendid demonstration garden out of a narrow strip of ground alongside his long store. Just listen to this—the garden space was only 4 ft. wide and 30 ft. long—because of a road that blocked off any further garden development, but that dealer grew fertilized tomatoes that had farmers gasping. And since tomatoes were the big winter crop in that area, the dealer sold a lot of fertilizer just by taking farmers outside and showing them his tomatoes and telling them about the type fertilizer he had used.

There must be hundreds, perhaps thousands of fertilizer dealers throughout the nation who have excess, unused land right next to their stores, land which could be made into splendid demonstration gardens, replete with signs advertising fertilizer, spray materials, etc. used on that garden. What better advertisement would the dealer need for the principal products which he sells?

For the farmer and the gardener, and for many other people, there is an eternal fascination in growing things. As a merchandiser, you can capitalize on this fascination. Do not let this business-building tool go neglected.

If you have a demonstration garden, make the most of it. If you plan to fumigate the soil bed, then advertise the fact. Invite farmers to come and watch you do it. Take pictures of the steps involved. Chances are you will sell some farmers on the idea of soil fumigation for certain types of crops. The posting of the pictures of the process, too, will stimulate sale of soil fumigation materials long after you have done the job on your demonstration garden.

Of course, as an alert dealer, you will first test the soil of that demonstration garden, be it large or small. You will also advertise the fact, telling customers that if anyone would like to know how to take a soil sample, they should come and watch. A good followup would be to invite farmers to watch you take soil test samples on a customer's farm, too. This would focus attention on the process.

As you plant your demonstration garden, you undoubtedly will want a lot of small and large signs. These will tell exactly what you planted and where, how much and what type of fertilizer was applied. Later in the season you will want other, different color signs, telling when you sprayed the crops, for what and what you used and in what amounts.

These signs, of course, should be black on white. Use wood instead of cardboard if you can. Then the paint won't run off and there will be no cardboard to buckle when it rains. Some of those signs you will want to use year after year—and you can do that with some.

And most assuredly, you will want to take pictures of that garden, perhaps at three different stages of growth. You may also want to print a picture of it in your newspaper ad, along with copy telling what you've got planted, what fertilizer you used, what sprays, etc. And also invite people to come and look at the garden when they have time.

If you print three pictures of the garden throughout the summer, pic-

(Continued on page 16)

SHOP TALK

OVER THE COUNTER

FOR THE DEALER

By EMMET J. HOFFMAN
Croplife Merchandising Editor

Careless merchandising habits are often acquired without the retailer being aware of how adversely they affect the customer.

A personal example of carelessness in both personal handling of the customer and store appearance was recently experienced by E. G. Cherbonnier of St. Louis, a consultant to a national association of businessmen selling to the agricultural market. Mr. Cherbonnier relates how the carelessness resulted in actual loss of immediate and follow-up business. He says:

"The other day I went to the county seat to get some winter rye seed. It makes a fine early spring grazing crop in Missouri. The store I visited is owned by an elderly man of fine standing in the community. School board member for years, etc. I have dealt with him for about 10 years, but my visits are not frequent enough for him to be expected to recall my name at once.

"He was sampling some soybeans. 'Good morning,' I said, calling him by name. He grunted but didn't bother to look up. His lady bookkeeper said, 'It is a good morning, but we're not very civil this morning.' She said this over her shoulder and may have meant it for a rebuke to her boss. Maybe it was a warming to me not to expect any civility there. I couldn't tell.

"I stood and stood. The old gentleman (and I'm sure he is one outside of his store) crossed the office several times, within a few feet of me, but made it a point not to notice me.

"I looked around. In a corner, on the floor, 14 sacks, ½ full to nearly empty. The tops turned down, dust thick on them. Two cats were patrolling this corner. It was apparent that at times their duties were so demanding that they had no time to go outside for toilet facilities.

"A set of shelves held equally dusty books, including a set of the Harvard classics. Display stands were in disarray.

"The elevator man rushed in to say

(Continued on page 17)

Illinois Farms Make Record Corn Yields

URBANA, ILL.—A record average corn yield of 93.2 bu. per acre was established this year on 892 acres of Allerton trust land owned by the University of Illinois. The previous high was 77.5 bu. in 1953, reports J. B. Cunningham, farm manager for the university.

This corn was produced on eight farms given to the university in 1946. Each farm is leased as a separate unit to a private operator. All farms are in Piatt County, near Monticello.

Highest average yield on any single farm was 107 bu. an acre on 126 acres. Lowest was 85.5 bu. on 89 acres.

The top farm followed a heavy fertilization program, with nitrogen, phosphate and potash plowed under. In addition, the corn was checked and cultivated both ways. The stand averaged about three stalks to a hill, or 12,000 plants an acre.

An even higher yield would have been obtained on some farms if corn left in the field could have been included. Mr. Cunningham estimates that from 2 to 10 bu. were left in the field—or about 7 to 8% of the yield, on the average.

Value of Fertilizer Demonstrated in Missouri Farm Tests

COLUMBIA, MO.—St. Charles County, Missouri farmers learned greater appreciation of the value of fertilizer as the result of test plots conducted this summer on their farms by the county's agricultural extension office.

Edward Gronewald, St. Peters, increased his corn yield by 33 bu. an acre with an $11 fertilizer application. This upped income $42 an acre.

On the Emmett Hollrah farm near St. Charles, a $15 investment per acre for fertilizer increased corn yield by 34 bu. an acre. The increase in income, after deducting fertilizer costs, was $28.

On the Gus Beier farm at Foristell, fertilizer increased the corn yield by 20 bu. an acre. Mr. Beier collected an extra $14 an acre after paying fertilizer costs.

Also near Foristell, Oscar Brakensiek's test plots indicate that good yields can be expected after rock phosphate, lime, and potash have been applied and the field kept in pasture for several years. On a terraced field, Mr. Brakensiek produced 100 bu. of corn an acre where he applied enough fertilizer.

He spent $11 per acre for fertilizer and said that without having previously terraced the field and applying lime, rock phosphate, and potash, he would have never been able to produce that much corn an acre.

On all test plots checked, there was a definite indication that this year the number of stalks per acre was a factor in yield. Highest yields were made on the farms where 14,000 to 15,000 stalks were planted per acre. Bernard Leonhard of Portage des Sioux had an average stalk count of 14,500 and his corn made well over 100 bu. an acre.

Weeds Cut Soybean Yields in Iowa Tests

AMES, IOWA—Weeds reduced soybean yields by as much as 17% in tests conducted by C. R. Weber and D. W. Staniforth of Iowa State College.

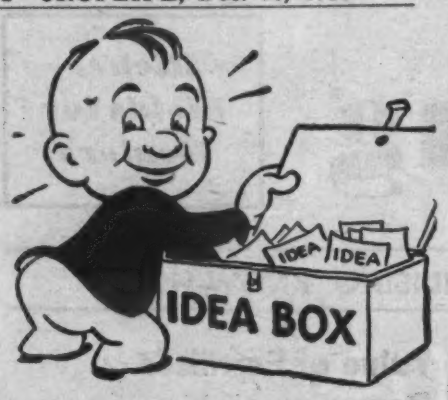
Results of their experiments over a 4-year period were reported in a paper presented at the national convention of the American Society of Agronomy in Cincinnati.

Both naturally occurring and planted weeds were used in the experiments. Weeds were removed in some plots about mid-July. In other plots, weeds were left until harvest. In plots where soybean stands were 10 to 12 plants per foot, yields were little affected when weeds were removed by mid-July.

When the weeds were left until early August, yields were reduced 7%. And when weeds were left in the beans until maturity, yields were cut 17%.

In soybean stands of 5 to 6 plants per foot, natural weed infestations caused yield losses three times as great as those in the 10 to 12 plant stands.

Planted weed infestations—removed when beans were 12 to 14 inches tall—caused practically no yield reductions. Yields were reduced 5% when planted weeds were left until bean pods were beginning to set, or until the beans matured.



What's New...

In Products, Services, Literature

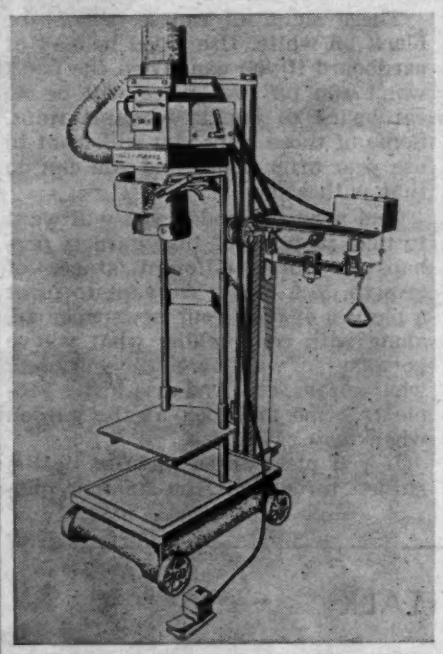
You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.

No. 6509—Catalog

Publication of a new general product catalog containing more than 375 basic industrial, agricultural and pharmaceutical chemicals is announced by the Dow Chemical Co. The 40-page edition includes descriptive information on principal product groups of Dow chemicals. Detailed information is given in tabular form for quick, easy reference. Information helpful for purchasing agents and technical personnel has been included. The index printed with last year's edition is now an integral part of the catalog. Included among the product groups listed are agricultural chemicals. A copy is available by checking No. 6509 on the coupon and mailing it to Croplife.

No. 5583—Bagger, Weigher

The Seedburo Equipment Co. announces the addition of Waymatic bagging scale to its line of testing, grading and handling equipment. "This one-man unit provides an economical way to convert any platform scale into a completely automatic bagger-weigher for grain, feed, seed, chemicals or practically any free-flowing dry materials," company officials state. The unit can be installed in less than an hour and fills and weighs 6-8 bags a minute. A belt conveyor is available for moving bags



from scale to stitcher. A free descriptive folder may be obtained by checking No. 5583 on the coupon and mailing it to this publication.

No. 6510—Insect Handbook

"Handbook of the Insect World" is the latest of a series of educational aids published by the Hercules Powder Co. A total of 532 insect illustrations, with a brief description and approximate size of each insect, is in the booklet. The insects are classified by entomological order. The booklet is designed to appeal to farmers, gardeners, students and others connected with the insecticide industry. Hercules researchers spent two years in preparing the handbook from available entomology textbooks and U.S. Department of Agriculture literature, according to company officials. Secure a copy of the handbook by checking No. 6510 on the coupon and mailing it to Croplife.

No. 6511—Forest Fertilization

The Nitrogen Division, Allied Chemical & Dye Corp., has published a booklet called, "The Use of Commercial Fertilizers—Particularly Nitrogen—in Forestry." Hermann Mayer-Krapoll is the author of the booklet, which was originally published in German and translated into English through the efforts of Nitrogen Division. The booklet's foreword states that the use of soil nutrients, with the exception of lime, has not progressed much in forestry until very recently. The one exception is in nursery management. The foreword continues: "The success obtained (in forest fertilization tests) is surprisingly great and gives reason to believe that the prospects of systemic fertilization of the forests are very promising." To secure the booklet check No. 6511 on the coupon and mail it to Croplife.

Also Available

The following items have appeared in the What's New section of recent issues of Croplife. They are reprinted to help keep retail dealers on the regional circulation plan informed of new industry products, literature and services.

No. 6507—Freight Car Apron

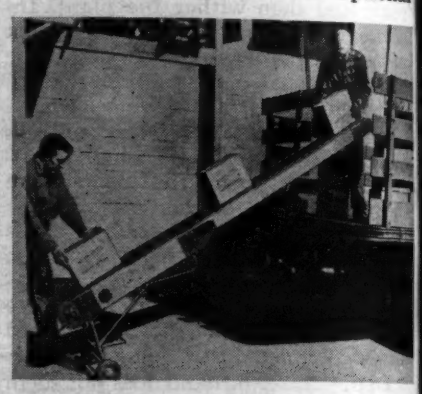
The Lite Line Industries division, Copperloy Corp., has announced the development of a new flat apron. Designed to use as bridging between flat cars in truck-rail piggy back service, the aprons can also be used for other applications where bridging is necessary for the movement of heavily loaded vehicles. The aprons are used in pairs. Each weighs less than 100 lb. and measures 30 by 56 in. Other special sizes are also available. Check No. 6507 on the coupon and mail it to Croplife to receive more complete details.

No. 5586—Dairy Washing Powder

Pennsalt MC-3 is the trade name of Pennsylvania Salt Manufacturing Company's soapless dairy washing powder designed especially for use in hard water areas. Company officials state: "Through the addition of both nonionic and anionic wetting agents, MC-3 now has greater penetration powers and longer lasting suds for thorough and rapid cleaning action. In addition the product is now completely dust free for easier handling." The product is available in water resistant 5-lb. cans, packed 12 to the case, and in 25-, 125-, and 350-lb. full-opening type drums. For more complete details check No. 5586 on the coupon and mail it to this publication.

No. 5578—Belt Conveyor

The Seedburo Equipment Co. announces the addition of a new belt conveyor to its line of Hytrol conveyors. Called the model A "Handy Boy," it has many of the features found on the standard line conveyor. The new unit has a 10-in. Ruff-top belt on a bed made of 12-gauge heat treated aluminum. It is available in eight sizes ranging from 6-20 ft. The 10-ft. model weighs 165 lb. Optional



accessories are available for different types of jobs. For further information check No. 5578 on the coupon and mail it to this publication.

No. 6502—Fertilizer Spreader

The Adams & Doyle Equipment Manufacturing Co. announces the production of a fertilizer, lime and phosphate spreader claimed to be rugged enough for custom spreading by dealers and precision designed and built to give many years of dependable performance under any conditions. Gear cases are of hardened steel, with

individually cut and spiral matched gears. The 21-in. bottom is said to permit an even spread of materials in any amount from 100 lb. to four tons per acre. Single or double fan units can be interchanged and the fertilizer hood is 20 ft. wide with open ends for extra coverage. For highway travel the hood folds to less than eight feet. Sizes range from 7 ft. for the ¾ ton pick-up to 12-ft. sizes for tandem trucks. Secure specifications and price sheets by checking No. 6502 on the coupon and mailing it to Croplife.

No. 5584—Paper Selector

A paper selector for multiwall paper bags, in a convenient slide rule form for easy reference, has been designed by St. Regis Paper Co. With the selector, it is possible to determine the type of paper best suited to meet individual multiwall bag packaging requirements, company officials state. Information is provided on such topics as the type of protection offered by multiwall bag papers, the properties of multiwall bag papers, a description of the various types of papers and a representative list of the products using particular plies. Bag paper properties, a descrip-

(Continued on page 15)

Send me information on the items marked:

☐ No. 5578—Belt Conveyor	☐ No. 6504—Scale
☐ No. 5583—Bagger, Weigher	☐ No. 6505—Light Unit
☐ No. 5584—Paper Selector	☐ No. 6507—Car Apron
☐ No. 5585—Distributor Head	☐ No. 6508—Plant Food
☐ No. 5586—Dairy Powder	☐ No. 6509—Catalog
☐ No. 6502—Spreader	☐ No. 6510—Insect Handbook
☐ No. 6503—Applicator	☐ No. 6511—Forest Fertilization

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Sales facts that sell fertilizer:

80 lbs. of USS Ammonium Sulfate has more nitrogen than 3 tons of manure

Many farmers today still hold that crops can get all the nitrogen they need from manure. Perhaps they can . . . *IF* there is enough manure. But most farms don't produce enough manure to meet the heavy demand for nitrogen. In short, the required nitrogen must come from another source—fertilizer nitrogen. Here's where USS Ammonium Sulfate can add the needed nitrogen: one 80-pound bag provides more available nitrogen than that in three tons of manure! And there's a lot less work in handling ammonium sulfate.

All-Purpose—The farmers in your area should become familiar with the advantages of this yield-boosting nitrogen fertilizer. It's dry, free-flowing and won't set up in storage. USS Ammonium Sulfate is ideal for plow downs, top-dressing, broadcasting or side-dressing. It can be applied with standard equipment. Remember, each bag has a bonus of 23% sulfur for deficient soils.

Get your USS Ammonium Sulfate in bulk or bags.

USS Ammonium Sulfate

USS TRADE MARK

UNITED STATES STEEL

Doing Business With

Oscar & Pat

By AL P. NELSON
Croplife Special Writer

Pat McGillicuddy and his wife Nora had just finished their dinner, when there was a sharp knock on the side door. Pat got up to go to the door and saw the stern face of angular Peter Johnson under the black fur cap so many farmers wear in the winter time.

"Why, hello, Peter," said Pat with a smile. "Come in. Come in."

The wind was sharp and so Peter Johnson stepped inside, but he did not take off his cap, coat or mittens. There was a belligerent look in his eyes.

"I came to tell you, Pat, that I am all done buying from you fellows!" said the Scandinavian, his grey eyes flashing. "Aye wouldn't take fertilizer from you, if you give it to me for nothin'!"

Pat looked surprised. "But, why, Peter? Haven't we always treated you fine? You are one of our best customers. What have we done?"

"You haven't done anything," flashed Peter, "but it's that Oscar, that, that penny pincher."

Nora McGillicuddy, tall, black haired moved forward. "Oh, Mr. Johnson, do take off your hat and coat and sit down and have a piece of my fudge cake and a cup of coffee. There's just one cup left."

Peter Johnson hesitated. "Coffee? Well—I am a poor Scandinavian if I will not take a cup of coffee. Yah, I sit down. But I am mad, Pat, I tell you."

The tall farmer wiped the snowflakes from his greying mustache, poured cream and sugar into his coffee, stirred it and took a sip. The way he smacked his lips was tribute to Nora's coffee brewing technique. Peter took another long drink from the coffee cup.

"I was at the YMCA cafeteria with the wife and the three children," Peter said, "and then my wife she wanted to call her sister Seena in Cedarville long distance. Vell, we go to the pay telephone booth down by the washroom and who was in the pay booth but Minnie Schoenfeld, and standing outside was Oscar."

"Oh," said Pat wondering why this should make Peter Johnson so angry.

Peter Johnson took a mouthful of cake, chewed a while. "My wife and me waited, and then Minnie stuck her head out the booth and said 'Oh, Oscar, the operator says my three minutes are up and Mrs. Schildkraut was telling me something important about what I should bring to the Ladies Aid tomorrow. Can I have another dime?' "

Pat smiled. He could see part of what was coming.

Peter Johnson growled. "Oscar would not give her the dime. But the stinker told her to tell Mrs. Schildkraut to call her back at the phone booth—then she wouldn't have to pay for the second call."

Pat and Nora both looked at each other.

Peter Johnson went on. "My wife and me was gettin' nervous by that time. The kids was still eatin' in the cafeteria—we had finished before them—and we wanted to get that call through to sister Seena."

Pat nodded.

"The phone rings and it was Mrs. Schildkraut. Then Minnie and she talk and talk, and talk, and me and Mrs. gettin' more nervous all the time. Finally I got mad, aye tell you. I told Oscar that maybe since he bought the phone with the stingy dime down payment for one call, I had better put on my overcoat and go one block down to the hotel in the cold weather and make the call. Then what do you think that Oscar said?"

Pat said nothing. He was afraid to ask.

"That feller he told me that if I was as careful of my dimes as he was, then maybe I would pay my fertilizer bills on time instead of letting them go three or fourth months," shouted Peter getting angry all over again. "Oscar started yelling at me, and I yelled at him, and by this time lots of people was listening. Well, my wife and I went away. That Minnie, she was scared. She wanted to get out the booth and let us talk but Oscar wouldn't let her. He told her to talk as long as she wanted."

Pat looked at Peter's white, angry face. "You know Oscar," he explained. "He's as honest as a preacher, but he speaks his mind. And he's stubborn."

"I don't care what he is," growled Peter Johnson. "Nobody can talk to me like that. Did you fellers ever lose a nickel on me, Pat?"

Pat shook his head. "No, we value your business, Peter. At least, I do, and I am sure Oscar does, too. He just lost his temper."

"Any time I was slow in paying my bills, I let you know," Johnson protested. "And how about the times I paid cash? Don't they count? And then that—that dachshund talks to me like that!"

Johnson's hand was trembling as he lifted his coffee cup to his lips.

"Peter," said Pat patiently. "Have you ever had a fight with your wife?"

Peter Johnson frowned. "Yah, sure, I have," he said. "But what has that to do with Oscar?"

Pat smiled. "I can't excuse anything," he said, "Peter, but friends quarrel once in a while and make up. Customers and merchants quarrel and they, too, make up. It would be a strange world if people didn't quarrel once in a while. But it blows over."

"This won't blow over," Peter Johnson promised, wiping his mustache. "Aye stay clear of that store of yours, Pat, so long as Oscar is there."

Pat sighed. "Peter, let me put it this way. I am sure Oscar is sorry now for the way he talked to you. But let me say this for him: Whenever you buy anything at our store, if Oscar doesn't think it is good merchandise, dollar given for dollar received, he won't sell it to you. Isn't that so? He protects the customer on that score."

"Ya, ya, I know that," Peter said. "If there is five pounds too much fertilizer in a bag, he will open it and take out five pounds. He doesn't give anybody anything more than what they pay for. But he does not cheat either. And I appreciate, Pat, all the time you spent with me, helping me work out fertilizer schedules for my land. But it's all over. I go someplace else now to buy."

Pat sighed once more. "Peter, let me ask you another question. Do you have a mother-in-law?"

Peter Johnson winced. "Heck, why do you have to say that?"

"And you have to live with her, don't you?"

Again the farmer nodded grimly.

Pat said: "And I have to live with Oscar. He's good for me, he says, and so do lots of other people. He holds me down. Everybody has to live with something they don't like. The main thing is, is there more good than bad in the situation?"

Peter Johnson looked thoughtful. "I don't see how you can stand him, Pat."

McGillicuddy smiled. "I have thought about that many times, begorra, but there is no way out. Money will not roll away from our cash register with Oscar watching it. Peter, if I can give you help with your fertilizer problems and your crop rotations, can't you try to get along with Oscar?"

Peter Johnson frowned, pressed his thumbs onto some stray cake crumbs, sucked them. "You certainly make good cake, Mrs. Pat," he smiled. "By golly, it's almost as good as my wife's. Ya, Pat, I will give you one more chance. But tell that Oscar I am plenty sore at him, and that he had better stay out of my way. And no more cracks to anybody how I pay my bills."

"I'll do the best I can, Peter," Pat promised.

The farmer got to his feet and put on his coat and fur cap. "I go now, Pat," he said calmly. "When I think what troubles you got with that—that Oscar, then maybe my mother-in-law is not quite so bad. My wife will be glad to hear me say that, aye can tell you."

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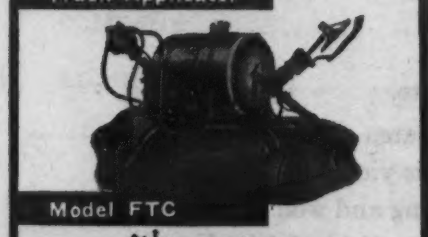
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More Fertilizer Would Mean More Profit On Michigan Farms

EAST LANSING MICH.—Michigan farmers are using a lot more fertilizer than they used to—but many could make some nice profits by using more, say Michigan State University farm economists.

Even though Michigan farmers spent some 33 million dollars on fertilizer in 1954, economists say this can be doubled profitably.

About 35% more plant nourishment in the form of commercial fertilizer was sold in Michigan in 1954 than in 1950, but less than half of the crop land received any. More than ¾ of the land not in hay or pasture received some fertilizer, however.

Higher yields from fertilized crops can mean greater carrying capacity for livestock farms and more production and income from cash crop farms, the economists say. The cost of fertilizer has risen less than most other cash input articles in the last five years.

AGRONOMY AWARD PRESENTED—Agronomy achievement award winner, Walter L. North, Jr., of the Pennsylvania State University, is shown receiving $200 check from Dr. W. H. Garman, chief agronomist of the National Plant Food Institute, as Dr. David R. McClay, acting associate dean in charge of instruction, looks on. In addition, Mr. North received an engraved key carrying the Institute emblem. The award, sponsored by the Institute, is presented annually to the most outstanding junior majoring in agronomy. The department of agronomy received a plaque on which the name of the annual winner was engraved. The award is made for outstanding leadership, character, and scholarship. The award presentation was made on Nov. 3, 1956.

WHAT'S NEW

(Continued from page 12)

on of its construction and present roduct packaging applications are hown. The selector indicates which apers will provide protection against rease and oil, acid and alkali, scuff nd abrasion, bacteria and insects, oisture vapor and water damage. o secure the selector check No. 5584 n the coupon and mail it to this ublication.

No. 5585—Electric Distributor Head

Details of the Select-A-Flo, trade ame for the electrical, directional torage distributor manufactured by he K. W. Rodemich Co., Inc., are nnounced. The units can be installed o receive material from elevator egs, collectors, mixers, sifters, belt onveyors, screw conveyors, pneuatic systems or any other process hat needs the facilities of distribuion for any free-flowing materials uch as grains, meals and chemicals. The unit consists of two parts, namey the indexing spout and the selecor switch control board. Features laimed are: Custom built design, ariation in opening discharge, reote control and reversing action. o secure more complete details heck No. 5585 on the coupon and ail it to this publication.

No. 6503—Applicator

The Larson Machine Co. announces details of its new applicator for aplying fertilizers, insecticides and erbicides. The unit is called by the rade name, Larson Trailer-Type unit

with Knife Bar applicator. Deep soil applications can be made by the use of the knife bar, company officials state. Lifting the knife bar out of the ground permits the use of the unit as a regular sprayer. The unit has a 220-gal. tank, V-type trailer and pump. The pressure regulator is in front of the tank directly behind the tractor operator. Details are available by checking No. 6503 on the coupon and mailing it to Croplife.

No. 6505—Emergency Light Unit

A redesigned automatic emergency lighting unit for plants and other buildings where an extra margin of safety is required has been announced by the General Scientific Equipment Co The unit is powered by a storage battery built into the portable set. A trickle charger automatically maintains the charge of the battery. A built-in hydrometer indicates the state of the battery at a glance. The unit plugs into an A.C. circuit. The lights are sealed beam and are claimed to provide service for 10 hours. For more complete information check No. 6505 on the coupon and mail it to this publication.

No. 6508—Liquid Plant Food

The H. D. Campbell Co. is now offering a ready-to-use liquid plant food in a household-size plastic squeeze container. The product, called by the trade name of Gro-Green, is packaged in a 4-oz. size that is suited for the feeding of potted plants, flowers and for similar household uses. The liquid is sprayed in small amounts directly on the leaves of the plant after watering. Company officials state that "Foliage Dietene," an ingredient found in the product, makes possible successful leaf feeding by breaking down the surface tension of leaves and enabling plant nutrients to be quickly and completely absorbed by the leaf surface. To secure more complete information about the product and quantity price quotations check No. 6508 on the coupon and mail it to Croplife.

No. 6504—Fertilizer Scale

A new automatic fertilizer bagging scale, capable of bagging up to 24 sacks per minute, is described and illustrated in a new two-page, two-color product data sheet, No. 5601, now offered by the Richardson Scale Co. The data sheet discusses such features as: Design, automatic belt feeder and discharge, construction, and maintenance. Specifications are listed in a separate table. The data sheet is illustrated with a photograph of the model as well as a dimensional drawing. For a copy of the bulletin check No. 6504 on the coupon and mail it to Croplife.

Scott Elects C. B. Mills Chairman, P. C. Williams President and Treasurer

MARYSVILLE, OHIO—O. M. Scott & Sons here has elected C. B. Mills as chairman of the board of directors, and P. C. Williams as president and treasurer. Mr. Mills has been president, and Mr. Williams has been vice president and treasurer since 1948.

O. M. Scott & Sons currently is involved in a $2,500,000 expansion program for its grass seed and garden chemicals facilities in Marysville, Ohio. The manufacture of electric power mowers is planned for 1957 in Marysville, where the firm was founded in 1870.

Mr. Mills is president of the American Seed Trade Assn.

Why it pays to sell the name that's known and trusted in important Farm Markets:

Profit and the pride in selling products that help your customers are the big reasons you are in business. Combine all of Phillips *66* multitude of satisfied farm users and *you* get a big advantage in selling Phillips *66* Ammonium Nitrate to *your* customers. Further, you have the assurance that the production of Phillips *66* Ammonium Nitrate is backed by the same progressive research that has made Phillips such a fast growing organization.

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3 *Personal service* from your Phillips *66* Fertilizer field man and prompt deliveries are included in the many profitable extras you get from Phillips *66*.

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CHICAGO, ILL.—*7 South Dearborn St.*
DENVER, COLO.—*1375 Kearney Ave.*
DES MOINES, IOWA—*6th Floor, Hubbell Bldg.*
HOUSTON, TEX.—*1020 E. Holcombe Blvd.*
INDIANAPOLIS, IND.—*1112 N. Pennsylvania St.*
KANSAS CITY, MO.—*500 West 39th St.*
MINNEAPOLIS, MINN.—*212 Sixth St. South*
NEW YORK, N. Y.—*80 Broadway*
OMAHA, NEB.—*6th Floor, WOW Building*
PASADENA, CALIF.—*330 Security Bldg.*
RALEIGH, N. C.—*804 St. Mary's St.*
SALT LAKE CITY, UTAH—*68 South Main*
SPOKANE, WASH.—*521 E. Sprague*
ST. LOUIS, MO.—*4251 Lindell Blvd.*
TAMPA, FLA.—*3737 Neptune St.*
TULSA, OKLA.—*1708 Utica Square*
WICHITA, KAN.—*501 KPH Building*

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is all the plant food water soluble?

All of the plant food in each pellet of AMMO-PHOS is completely soluble in water, making AMMO-PHOS more readily available to growing plants.

is it easy to store and apply?

AMMO-PHOS will not cake or lump when placed in dry storage. It provides easier, more even distribution in the field with pellets that are always dry and free-flowing.

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All grades of AMMO-PHOS contain adequate sulphur in addition to the major plant foods.

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Recommended Practices Fall into Two Main Groups, Sociologists Say

MADISON, WIS.—Some farmers adopt certain farm practices without worrying too much about whether they're going to make more money by doing so. Others won't consider accepting a practice unless they're sure of a good profit, according to University of Wisconsin rural sociologists.

E. A. Wilkening and J. H. Copp, rural sociologists at the University of Wisconsin, interviewed some 620 farmers and found that 17 farm practices currently being recommended by the state agricultural extension service fall into two main groups.

One group consists of those practices which lead to rather definite higher economic returns, the sociologists say. Examples of this type are side-dressing corn, selling grade A milk, keeping milk records, using mechanical hay harvesting equipment, fertilizing pastures and using quality herd sires.

Farmers largely motivated by a desire to make money are the ones most likely to adopt this type of practice.

The other group is made up of practices aimed at conserving farm resources as well as the making of profits.

Strip-cropping, chemical weed control, heat lamps for farrowing pigs and creep-feeding for pigs are some examples in this group.

While these techniques are profitable, they also contribute something more. Strip-cropping and weed control, for instance, improve the appearance of a farm. The other practices reflect a desire to meet certain standards in the care and quality of livestock.

Some practices are followed on the basis of how it appeals to the farmer's sense of security in conserving resources and of pride in having fields, buildings and livestock that meet certain standards.

Most of the recommended practices no doubt involve both elements—production efficiency and improvement of resources as such, the researchers say.

New Reaction of Organic Matter on Copper, Zinc Noted by Agronomists

LAFAYETTE, IND.—An apparently new function of organic material in soils has been discovered by two Purdue University research agronomists. These men, Stanley Barber and Frank Himes, report that organic matter reacted with zinc and copper so that the latter two elements are held tightly with a "claw-like" electrical force. The reaction found is different than that already known for these elements in the soil, they say.

Other agronomists consider the information found by these researchers of great importance in investigating the availability to plants of minor elements in soils.

Some fractions of soil organic matter hold zinc and copper more strongly than others. Barber and Himes, thus, believe that a study of different fractions or parts of soil organic matter may have much practical importance for farmers. To help obtain this practical information, they have developed a method of measuring how strongly these plant nutrients are held and to what extent they are held.

LIME NEED

EAST LANSING, MICH.—Ed Longnecker, Michigan State University extension soils specialist, estimates that about two thirds of the farm land in Michigan needs lime to correct excessive soil acidity. More than 1,000,000 tons of lime could be used in the state, he says, to correct soil acidity and keep it at the proper level for one year.

SOMETHING GROWING

(Continued from page 11)

tures showing the garden at different stages, then you will have impressed many people with the steps necessary for a fine garden. You will also have induced many people, among them many customers, to look at that demonstration garden.

If you will travel through the tobacco producing areas of the South in late winter you will be amazed at the number of small, demonstration soil fumigation displays in dealers' stores. And if you pay attention, you will see that many people who enter those stores stop and take a look at those beds, neatly covered, and some people will read the point of sale signs posted nearby.

Nothing is growing in those soil fumigation beds, it is true, but the onlookers are so interested in them that they can well imagine tobacco growing there, which is fine for your purpose.

A large electric power company several years ago put in a garden in one of its windows in February. This happened in Wisconsin and there was snow on the streets. The power company window contained 6 inches of soil, and underneath the soil bed there was electric heating. The soil bed was planted, too, and signs told what was planted in certain rows.

Day after day many people would stop and look at that window, watching to see when the seeds would poke their shoots above ground. And after the shoots did come up people still watched each day to see how much growth had proceeded since they looked last. This shows again how tremendously interested people are in growing things.

Does all this give you an idea?

How about those winter months when outdoor gardens are impractical in many sections of the country? Well, the alert dealer still has many opportunities to show growing things. There are potted house plants of many types, as well as large shrubs in tubs filled with earth. You can display these things and feed them, naming the plant food which you use. This will keep interest alive during winter months in fertilizer, along with the promise of another green, sunny spring in the near future.

Also, remember this, if you have potted plants on display, including colorful African violets, you will find many farm women dropping in at your store when they are in town. They will want to see the flowers. And while they are in your store they may buy something "on impulse." And many times their husbands will come along, too. A husband might just place an order for spring delivered fertilizer while his wife is looking at the potted plants.

Where else should the customer expect to find "green growing things" except in a fertilizer and farm supplies store?

"I know you're giving me an honest day's work but you're getting a week's pay for it."

Floor Walking by Retailer Pays Off

The owner or manager of a farm supply store should spend as much time as possible in his sales room, meeting and greeting customers and directing the flow of operations.

The owner is host of his business, and it is his job to make customers feel at home. This is not a task to turn over to an employee. For, as well trained as that employee might be, the customer will know the difference.

Nowadays a retailer has so much other work to do, outside calls on prospects and customers, salesmen to talk to, office work to do, dinner and lunch engagements, meetings to attend—that some dealers are tempted to cut down on the floor work.

But when the owner disappears from the sales floor too often, some of the sales volume may also disappear. The owner is the directing force of his business. His presence "working on the floor" will often attract more customers and boost the morale of tired employees. These are only a few of the vital factors to consider when "you walk the floor."

For the customer, nothing is so dragging and boring as to stand alone and wait. He'll wait twice as long after the boss stops to chat with him—because the glow of personal attention keeps the fires of interest burning for a long time.

Many a business has failed because the owner lost the common touch, the desire and ability to spend a lot of time visiting with customers and learning their needs. Losing this common touch is possible when a dealer barricades himself too frequently in his office and delegates most contact duties to his employees.

Weed Research to Be Reviewed at Minnesota Farm and Home Week

ST. PAUL — How radioactive isotopes are used to chart the movement of chemical weed-killers through plants will be explained to visitors during the weed program Jan. 8, during Farm and Home Week on the University of Minnesota St. Paul campus.

A. J. Linck, University plant physiologist, will demonstrate how a Geiger counter is used in studies aimed at finding better ways to control bothersome weeds on Minnesota farms.

This research is part of the "Atoms for Agriculture" project—financed by a $100,000 research grant to the university by the Northern States Power Co., Minnkota Power Cooperatives, Inc., Ottertail Power Co. and the Central Power Electric Cooperative. The studies will be carried on cooperatively by the departments of agronomy, plant pathology, soils horticulture and agricultural engineering.

Farmers and their families will also hear talks on chemical weed control during the Farm and Home Week weed program.

"Weed competition in peas for processing" will be discussed by D. C. Nelson, University horticulturist and L. S. Dunham, agronomist, will tell about herbicides.

Thor Kommedahl, plant pathologist, will explain influence of weeds on plant diseases and H. L. Hansen, forestry professor, will discuss chemical control of weeds in tree nurseries. Engineering aspects of weed control will be explained by L. A. Liljedahl, USDA research engineer at the University.

OVER THE COUNTER

(Continued from page 11)

that in spite of a refusal of a box car for that morning, the railroad was spotting one. The lady reminded him that he should go out and thank the brakeman, which he did.

"By this time I was in the frame of mind of a researcher, more than a customer. I purposely stood where Mr. ——— would have to pass within a foot of me to get back to his testing. I had been there 20 minutes.

"Pass he did, but still not a glance. I gave up, did another errand and went home, as we had guests coming.

"When I reported it to my tenant, he said, 'I never go there any more.' 'Why?' says I. 'Because the damned place is so dirty and they act like they don't care whether you come in or not. I go to ——— Service Co.'

"It shows that poor housekeeping can keep customers away and that even a good citizen, of high character, can gradually fall into careless manners at his store and leave the area wide open for a new competitor. The store where my tenant buys has been there only a short time. Did they decide to establish there because they recognized a vacuum of courtesy and service?

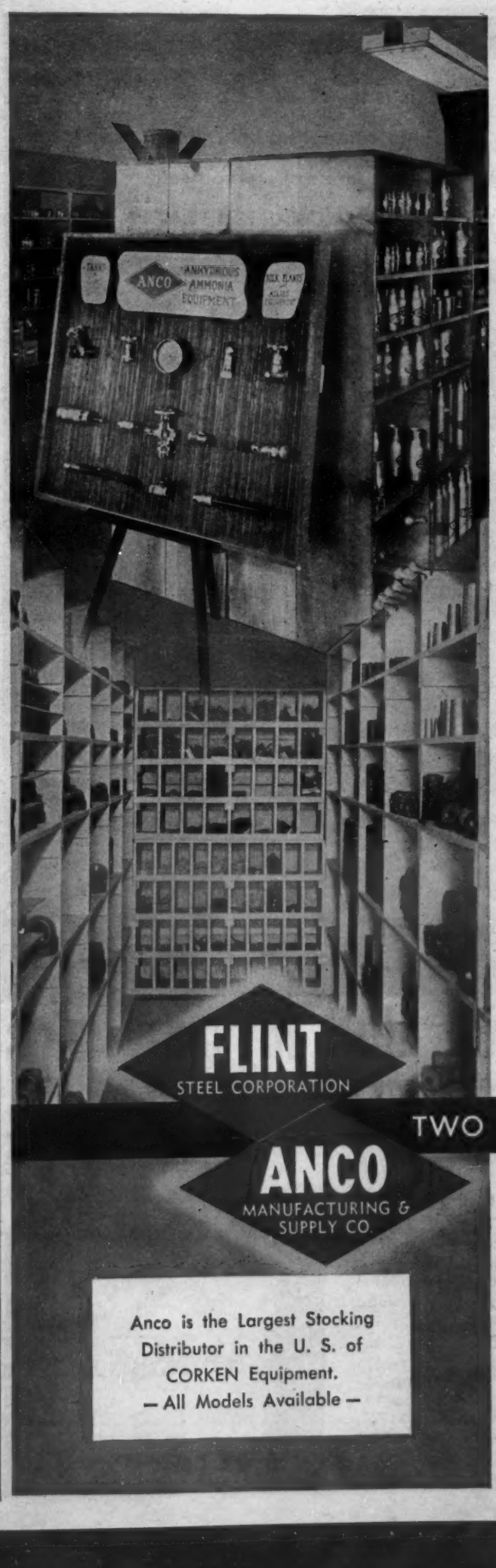
"The other errand I did that morning was at a nearby hardware store. Their monthy statement wasn't clear as to whether they had credited me with a returned item.

"Four farmers were in the store and there were two employees. One of them, although busy, called across the store, 'Hello, Mr. Cherbonnier, look around, I'll be over soon.' Thinks I, 'Gosh, I'm important. They know me right away.' So I look around and select $3.45 of odds and ends by the time the salesman is through with the people ahead of me.

"For 20 years I've known that trading center. No other hardware store has set up in competition with this concern."

SOIL BANK PAYMENTS

WASHINGTON — Payments to farmers participating in the 1956 acreage reserve program of the soil bank totaled $218,296,540.64 in 45 states and Puerto Rico reporting through Nov. 16, 1956, the U.S. Department of Agriculture announced Nov. 27.



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FARM SERVICE DATA

Extension Station Reports

University of Missouri extension soils specialists list these three essentials for a well-balanced farming program:

1. Farm soil should be supplied with plant nutrients in proper balance and in sufficient quantities to produce high yields of quality crops.

2. Good soil tilth is needed to provide favorable conditions for crop growth. When tilth is good, air and water can get into the soil more easily. Plant roots can more readily reach available nutrients and moisture.

3. Conservation measures should protect the soil against losses from erosion.

The soils men say that all the practices used in soil improvement should be related to each other.

Efficient fertilizer use should be related to the kind of land and the crop to be grown. The crops grown should be suited to the particular farm's needs. This, in turn, will depend on the kind and number of livestock produced and the amount of machinery available.

The research men point out that soil tests can give important information on the soil's fertility reserves. Other facts are needed, also, before the tests can be used for practical fertilizer applications. These additional facts should show the past cropping history of the soil, recent fertilizer treatments used on the field, the methods used in cultivating the land and how big an amount of corn stalks, leaves, straw, legume tops and roots and other residues returned to the soil.

★

Deep-rooted legumes and grass crops, plus limestone and fertilizer, are key weapons in the battle to c down damaging losses of topsoil fro erosion, according to L. E. Gar agricultural research specialist the University of Illinois' Dixo Springs Experiment Station.

Mr. Gard says legumes and grass are the best crops for reducing ru off of water and losses of topso because they protect the soil whi they are growing and reduce th danger of erosion when cultivate crops follow in the rotation.

★

Band seeding can help Midweste farmers establish thrifty legum stands, save seed and boost hay o forage yields a ton or more per acr reports the Middle West Soil Im provement Committee, in citing state ments by college agronomists an agricultural engineers.

The committee points out tha many farmers get best results by add ing plant food via the band seedin method and by applying additiona amounts of phosphate-potash fert lizer to build the soil's overall fertilit reserves.

In band seeding, says the commi tee, the legume and grass seed placed about ¼ to ½ inch deep in th soil and about an inch above a ban of fertilizer.

This banded fertilizer is within eas reach of the seedling roots when the need nutrients to get a vigorous star

"Les Hill, Purdue University agr cultural engineer, reports savings o about one third in the amount of see needed, when the band seeding meth od is used," says the committee.

"Money saved on seed can help pa for equipment needed to convert th grass seed attachment on a farmer grain drill for band seeding," accord ing to Mr. Hill.

E. H. Tyner, University of Illinois agronomist, says band seeding un der certain conditions can help pro mote rapid, early growth and vigor, the committee points out. Seedlings, thus, are better able to combat early hazards such as root feeding insects and adverse weather.

Other advantages cited by M Tyner, are: 1—Band seeding ca make it possible to do a better job weed control; 2—Banded fertilizer can promote more extensive rootin In wheat, this reduces winter heavin and helps assure better winter su vival; 3—Banding may lead to mor complete use of soil fertility by a crops.

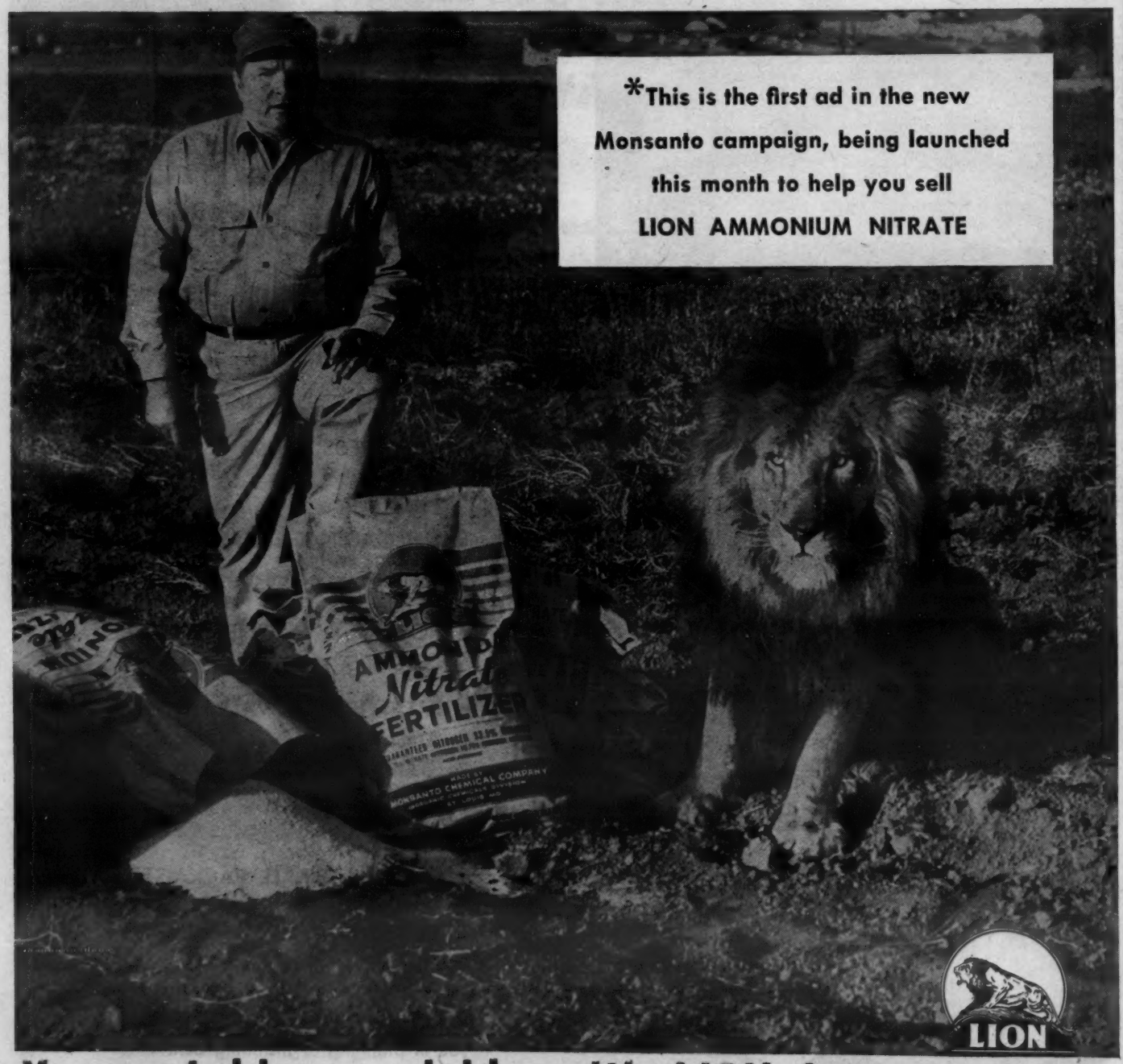
★

In the long run, it costs only ha as much to use treated fence pos as it would for setting untreate posts around the farm.

John R. Neetzel, forester at th University of Minnesota, says th over a 30-year period on the averag Minnesota farm, it would cost $1,4 to set all untreated posts—twice much as if the farmer used treate posts.

That's figuring 60¢ per post f buying and setting durable untrea ed posts, and 90¢ each for the treate posts. The average farm needs abo 80 replacement posts per year. T treated posts are actually cheape though, because they'll last a l longer. That means less cost a r labor for replacement posts in la years. Besides, treated wood pos mean less wear and tear on the wi Mr. Neetzel says.

There are 800 posts on the av age farm, Mr. Neetzel points o Treated posts—all good for 30 ye —at 90¢ each would make a to annual cost of $24 for the 30-ye period. Untreated posts that wo be good for just 10 years would n to be replaced twice, for an avera annual fencing cost of $48.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Diseases of Farm Crops Spotted on Aerial Photographs

BERKELEY, CAL.—Certain diseases of agricultural crops can be detected on aerial photographs taken from two miles or more above the earth, a University of California scientist has reported.

Three common diseases of wheat and oats have consistently shown up on aerial photographs, said Robert N. Colwell, associate professor of forestry in the University of California School of Forestry. His study was sponsored by the National Research Council, a federally-supported scientific body.

The detection method depends on careful selection of photographic films and filters which will accentuate differences in light reflectance from diseased and healthy plants. When this is done, the diseased plants can be detected by tone or color differences on the aerial photographs.

In several cases the diseased areas in the field have been detected on infrared photos taken from an altitude of two miles, even though these areas could not be seen on ordinary photos taken on the ground from only 10 feet away. Once detected on high altitude photographs, the diseased areas may then be photographed from lower altitudes (250 to 2,000 feet) in order to identify the exact type of disease, estimate its severity and predict the reduction which it will cause in crop yield.

Photographic reconnaissance of large agricultural areas may become an important tool in the future, Mr. Colwell believes. "Early detection and treatment of infection centers in many cases would prevent diseases from reaching major proportions.

"Losses as high as 50 to 75% in diseased wheat or oats are not uncommon. Such losses will become increasingly serious if the world's population continues its rapid rate of growth, because cereal grains are the main source of food energy for 97% of the people in the world."

Mr. Colwell served in the U.S. Navy during World War II. He studied aerial photographs to detect enemy activity beneath camouflage and to pick out suitable landing sites for amphibious operations.

After the war he resumed his place in the University of California School of Forestry seeking to apply aerial photography to timber inventory and other forestry management problems. Recalled by the Navy during the Korean war, he led research at the Navy's Photo Interpretation Center in Washington D.C. There he began tests, at the request of the Department of Agriculture, on aerial photo detection of crop diseases. He was assisted in these tests by the National Bureau of Standards and Office of Naval Research.

Returning to the University after the war, Mr. Colwell ran a series of nearly 20,000 aerial photos on diseased cereal crops at the Davis campus, with the cooperation of the Naval Air Station, Oakland. Many of these crops were grown in special nursery plots by Coit A. Suneson, associate in agronomy on the Davis campus of the university, who carefully inoculated selected plants with the disease being investigated.

Using four film-filter combinations, it was found that the most serious diseases of oats and wheat could be clearly distinguished by matching the known light reflectance of pre-tested diseased plant leaves with the light reflectance indicated by tones or colors on the aerial photos.

SHORT COURSE

ST. PAUL—The annual Weed and Seed Inspectors Short Course will be held at the Institute of Agriculture, University of Minnesota, Jan. 14-18.

OUTLOOK SESSION

(Continued from page 1)

needs through 1975 for crops and livestock would require large increases in acreage of cropland if this were the only way to meet them. Some increases in cropland will occur during the next generation from irrigation, drainage and land-clearing development, but most through the route of improvements in yields and efficiency."

Mr. Heisig thus is touching on the idea well expressed by Dr. Russell Coleman, executive vice president of the National Plant Food Institute, who cited figures to prove that there is a great profit potential through increased yields on reduced acreage of many feed grain crops and on pastureland.

"Our economists, working with ARS scientists, have made some estimates of economic attainable yields by 1975, based on presently known technologies and economic levels of adoption by farmers," Mr. Heisig told the conference.

"When these are translated into the projections of harvested acreage needed, we get the following general picture of change in land use by 1975:

"(1) Harvested acreage of corn—about 4 million acres less than in 1956, (2) other feed grains—also several million acres less, (3) soybeans—about 3 million acres less than the large acreage of 1956, (4) wheat and cotton—acreage about where it is today under allotment programs, and (5) hay—acreage up about 13 million acres.

"These six crops account for around 90% of the harvested cropland. Pasture requirement in terms of average cropland equivalent will increase by about 35 million acres, even after allowing for attainable increases in pasture outturn per acre.

"Adjustments that will be needed in the acreages of these crops and in pasture thus constitute essentially the adjustment problem so far as use of acreage is concerned."

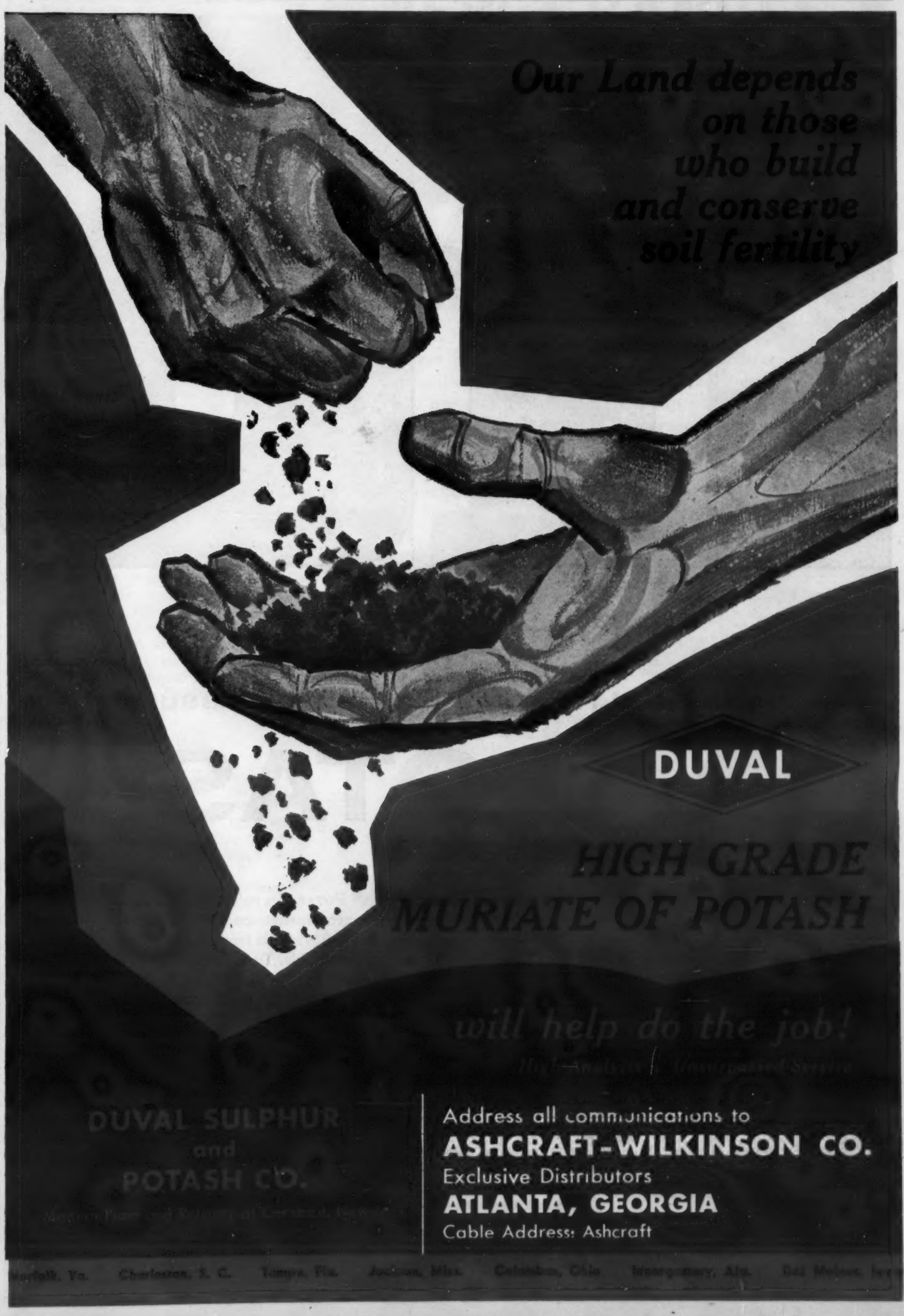
In summary, Mr. Heisig said that four changes were on the horizon. These were:

(1) The possibility of sufficient increase in demand during the next generation to provide a better balance between production and market requirements. However, current problems of unbalance may continue to be acute during the next five to 10 years.

(2) We can expect a continuation of the trend toward greater commercialization in agriculture, with high cash costs of farming and high investment requirements per farm and per farm worker.

(3) Agricultural products will be supplied by fewer but larger farms.

(4) We can anticipate an accelerated movement of low-income farm people into non-farm jobs in the low income areas and a consequent improvement of agricultural incomes for people who remain in agriculture.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Economists Forecast Farming Production For Next 20 Years

WASHINGTON — Sizable adjustments may be needed to balance farm output with changing market demand, economists of the U.S. Department of Agriculture point out in sizing up the production job ahead for farmers during the next 20 years.

The magnitude and nature of the job is analyzed by Dr. Glen T. Barton and Dr. Robert O. Rogers, agricultural economists of USDA's Agricultural Research Service, in the publication Farm Output — Past Changes and Projected Needs.

There probably will be about 210 million persons in the U.S. to feed and clothe in 1975—a fourth more than the 165 million in mid-1955. Based on that and other assumptions, the economists see a need for one-third more agricultural products in 1975 than in 1951-53. They say the past record of farmers would indicate that future needs can be met relatively easily.

If projected production requirements for 1975 were met solely through increases in area of cropland, an additional 150 million acres would be needed. But trends during the last 15 years indicate that only about 25 million additional acres might be put to use. That means five-sixths of the job would have to be done by increasing yields, or by other advances in technology.

The authors explain that the projections in their study are not forecasts; they indicate expected trends. They assume a growing economy with no major wars or economic depressions. The economists point out that changes in technology and economic forces not now on the horizon could alter the economic outlook. For that reason, current appraisals of future farm production needs may easily become out-dated.

The farmer has a big job ahead of him, but it does not appear so large if compared with the remarkable rise in farm output in recent years. The economists conclude in their study that the question is chiefly one of "how" rather than "whether" farm production needs of 1975 can be met.

California Farmers Spend $9 Million for Herbicides

SAN FRANCISCO—Farmers in California spend approximately $9,000,000 a year for chemical weed killers and their application, according to Allen B. Lemmon, chief of the division of plant industry, California Department of Agriculture.

Mr. Lemmon recently addressed the statewide weed committee meeting in San Francisco. He said losses caused directly and indirectly by weeds and costs of controlling them have been estimated at $200,000,000 in California and $4,000,000,000 in the nation.

Dr. Ralph P. Perkins

Dr. Ralph P. Perkins Named Dow Organic Research Director

Dr. Edgar C. Britton has retired a director of the Dow Chemical Co. Edgar C. Britton organic researc laboratory at Midland but will con tinue to serve as a research con sultant on a company-wide basis, Dr R. H. Boundy, vice president and di rector of research, has announced. Dr Britton has been succeeded as labora tory director by Dr. Ralph P. Perkins formerly an assistant director.

Dr. Britton, who received the Per kin Medal, industrial chemistry' highest award, in September, wil continue as a member of the com pany's agricultural chemicals execu tive committee and as a board mem ber and secretary of Dow Cornin Corp., a Dow associated company.

Dr. Perkins, who joined Dow i 1929, has been engaged in organi research during his entire career. I 1945 he was made an assistant direc tor of the organic research labora tory, which was renamed the Edga C. Britton research laboratory i 1953. He has been a member of th company's general research commit tee since 1949 and served as its chair man in 1951.

Dewey K. Lange Dies; Headed Fertilizer Firm

ST. LOUIS, MO.—Dewey K. Lange secretary and treasurer of Lang Brothers, manufacturer of fertilizers St. Louis, died of a heart attack her recently.

Ever since his graduation from th University of Missouri's College o Agriculture in 1922, he was identifie with the fertilizer industry.

After spending twelve years wit Darling & Co., he then opened th V-C plant in East St. Louis as man ager, moving on to becoming sale manager of Tennessee Corp., fertilize division. For the past fourteen years he was identified with his own com pany, Lange Brothers, of St. Louis.

Mr. Lange was a member of th former National Fertilizer Assn Midwest Soil Improvement Commit tee; Soil Fertility & Plant Nutritio Council of Missouri, and was a direc tor and treasurer of St. Louis Floo Control. Mr. Lange was widely know as a specialist in fertilizer and soil having studied the chemistry and pro duction of complex fertilizers in Ger many, France, Italy, Sweden, an Belgium.

MICHIGAN TOUR

EAST LANSING, MICH. — Onc again, a team of Michigan State Un versity specialists will conduct the annual tour of the state to ho "barnyard economics" meetings Michigan farmers will get the late information about next year's ou look at these meetings during th next six weeks. The farm economis will address meetings in 68 counti

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Photos courtesy Western Growers Assoc.

Industry Patents and Trademarks

2,722,151. Correction of Iron Deficiencies in Growing Plants. Patent issued Nov. 27, 1956, to Alexander A. Nikitin, College Park, Ga., assignor to Tennessee Corp., New York. The method of supplying nutritional iron to plants growing in iron-deficient soil which comprises supplying iron to the plant in the form of ferrous oxalate in contact with the tissues of the growing plant.

2,722,198. Method of Killing Flies With Composition Comprising Pyrethrins and p-Aminoazobenzene. Patent issued Nov. 27, 1956, to Carl W. Smith, Evanston, Ill., and Norman W. Templin, Hammond, Ind., assignors to Standard Oil Co., Chicago. The method of killing flies which comprises spraying a fly-infested area with a composition comprising a refined mineral oil containing about .02 to 2 weight per cent of pyrethrins based on total composition which composition contains an amount by weight of p-amino azobenzene which is .2 to 5 times the amount of pyrethrins.

2,772,260. Fungicidal Composition. Patent issued Nov. 27, 1956, to Michael A. Manganelli, Springfield, Mass., assignor to Monsanto Chemical Co., St. Louis, Mo. The method of forming a composition of matter comprising heating at an elevated temperature sufficient to place the reactants into homogeneous solution, said temperature being below the lowest decomposition temperature of the reactants, a metal ammine complex salt of a rosin amine, the metal of said metal ammine complex being from a water-soluble salt of a metal capable of forming a complex with ammonia and a water-insoluble mono-carboxylic acid soap having at least 6 carbon atoms in the carboxylic acid, said carboxylic acid being not otherwise substituted than with a hydrocarbon radical and the hydroxyl radical.

2,772,261. Fungicidal Composition. Patent issued Nov. 27, 1956, to Charles C. Yeager, Glen Ellyn, Ill., assignor to Scientific Oil Compounding Co., Inc. The method of forming a composition of matter comprising heating at an elevated temperature sufficient to place the reactants into homogeneous solution below the lowest decomposition temperature of the reactants, a complex metal ammine salt of a rosin amine, said metal of said salt being a metal whose salt is capable of forming a complex with ammonia a water insoluble carboxylic acid soap and a quinoline selected from the group consisting of quinoline, isoquinoline, a halogen substituted quinoline, a nitroquinoline, an alkoxy quinoline and an alkyl quinoline.

2,772,262. Fungicidal Composition. Patent issued Nov. 27, 1956, to Charles C. Yeager, Glen Ellyn, Ill., assignor to Scientific Oil Compounding Co., Inc. The method of forming a composition of matter comprising heating at an elevated temperature sufficient to place the reactants into homogeneous solution, said temperature being below the lowest decomposition temperature of the reactants, a rosin ammonium phenoxide and a water insoluble carboxylic acid soap.

2,772,263. Fungicidal Composition. Patent issued Nov. 27, 1956, to Charles C. Yeager, Glen Ellyn, Ill., assignor to Scientific Oil Compounding Co., Inc. The method of forming a composition of matter comprising heating at an elevated temperature sufficient to place the reactants into homogeneous solution, said temperature being below the lowest decomposition temperature of the reactants, a metal rosin ammonium phenoxide complex, the metal of said complex being from a water-soluble metal salt capable of forming a complex with ammonia, and a water-insoluble mono-carboxylic acid soap having at least 6 carbon atoms in the carboxylic acid, said carboxylic acid being not otherwise substituted than with a hydrocarbon radical and the hydroxyl radical.

2,772,264. Fungicidal Composition. Patent issued Nov. 27, 1956, to Charles C. Yeager, Glen Ellyn, Ill., assignor to Scientific Compounding Co., Inc. The method of forming a composition of matter comprising heating at an elevated temperature sufficient to place the reactants into homogeneous solution, said temperation being below the lowest decomposition temperature of the reacants, a metal rosin ammonium phenoxide complex the metal of said complex being from a water-soluble metal capable of forming a complex with ammonia, a water-insoluble mono-carboxylic acid soap having at least 6 carbon atoms in the carboxylic acid, said carboxylic acid being not otherwise substituted than with a hydrocarbon radical and the hydroxyl radical and a quinoline.

2,772,269. Separation of Mixed Heterocyclic Nitrogen Compounds. Patent issued Nov. 27, 1956, to William L. Stalder and Glenn H. Dale, Bartlesville, Okla., assignors to Phillips Petroleum Co. An improvement in separating alkenyl heterocyclic nitrogn compounds from corresponding alkyl heterocyclic nitrogen compounds by liquid-liquid extraction wherein carbonated water is the solvent, said improvement comprising introducing a hydrocarbon having a specific gravity less than that of said mixture into the extraction vessel.

Industry Trade Marks

The following trade marks were published in the Official Gazette of the U.S. Patent Office in compliance with section 12 (a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the Gazette. (See Rules 20.1 to 20.5.) As provided by Section 31 of the act, a fee of $25 must accompany each notice of opposition.

Bo-Peep, drawing of girl shepherdess and three sheep, for fertilizers. Filed Nov. 17, 1955, by Gordon Callbeck, doing business as A. & A. Coal Co., Denver, Colo. First use Aug. 4, 1947.

Ma-Der-Gro, in capital letters, for fertilizer comprising peat moss treated with a synthetic liquid chemical fertilizer containing trace elements and the liquid chemical fertilizer per se. Filed March 9, 1956, by Hale Laboratories, Bay City, Texas. First use, Nov., 1955.

Golden Harvest, in reverse capital letters, for fertilizers. Filed May 2, 1956, by the Ohio Equity Exchange Co., Lima, Ohio. First use Feb. 1, 1956.

Nisol, in capital letters, for nitrogen solutions for fertilizer. Filed May 21, 1956, by W. R. Grace & Co., New York. First use Aug. 31, 1955.

Fert-O-Stik, in italic capital letters, for fertilizer. Filed May 22, 1956, by Washington Organic Fertilizers, Inc., Wapato, Wash. First use March 29, 1956.

Tropical Splendor, in reverse capital letters, for plant food. Filed July 5, 1956, by Joseph Schumacher, Hallandale, Fla. First use May 19, 1956.

SBA Loans Approved To Industry Firms

WASHINGTON—Small business loans to several industry firms were approved in October, Wendell B. Barnes, administrator of the Small Business Administration, has announced. The loans were as follows:

J. A. McCarty Seed Co., Evansville, Ind., seed, feed and fertilizer dealer, $200,000; Kling Seed Co., Cedar Rapids, Iowa, seed, fertilizer and chemical dealer, $50,000; Delta Fertilizer Inc., Rock Rapids, Iowa, fertilizer manufacturer, $50,000; General Hydraulics Corp., South Beloit, Ill., agricultural spraying equipment, $100,000, and Larson Machine Co., Princeville, Ill., spraying equipment

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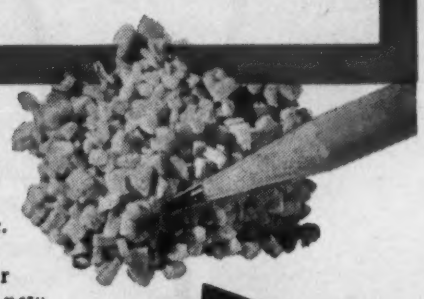

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OKLAHOMA CONFERENCE

(Continued from page 5)

ratio-grade groups according to needs as determined by soil tests. Many of the states are making good progress towards bringing the tonnage sold in line with the tonnage needed to better satisfy crop requirements. This is the big problem confronting agriculture and industry."

Dr. Boyd said that in Oklahoma 31 grades of high P-low K are being sold whereas one, two or three grades would suffice; 93% of the total fertilizer sold is high P-low K but needs shown by soil tests indicate that 40% should be sold. He said 6% of the state's fertilizer is being sold as even P-K but that 50% should; 1% is being sold as low P-high K whereas 10% should be, according to needs shown by soil tests.

"Lime is the forgotten product in farming today. Lime and fertilizer go together. Fertilizers give maximum performance in the optimum pH range, so the liming program must not be overlooked," Dr. Boyd stated.

Dr. Boyd suggested that whenever dealers are asked for credit on fertilizers they should make it a practice of demanding that the farmer have his soil tested. The dealer should say: "I'll give you time if you get your soil tested and buy from me what your soil needs."

Dr. M. D. Thorne, head of the agronomy department, Oklahoma A&M College, said from 800,000 to 1 million tons of fertilizer would be used in Oklahoma annually if recommended practices were adopted. In 1954 only 16% of the 4.5 million acres of wheat in Oklahoma had fertilizer applications and most of the 16% did not have the recommended amounts.

"Where irrigation is used in Oklahoma, fertilizer usage potential is higher than in the non-irrigated sections," said Dr. Thorne.

The more than 1 million acres of Oklahoma wheat land in the Soil Bank probably won't affect fertilizer consumption figures much because these acres "weren't big users of fertilizers previously," Dr. Thorne said.

Plant nutrition and soil chemistry studies at Oklahoma A&M College are being expanded, Dr. Thorne said, and the future of fertilizer in the state is bright, considering that usage has increased five-fold during the past 10 years.

Dealers that handle the right product, use the right business methods and employ the right type of men will sell lots of fertilizer, claimed Joseph E. Burger, vice president and sales manager, Corneli Seed Co., St. Louis.

"Nothing was ever sold without enthusiasm. The true customer is satisfied with your product, likes doing business with you and your firm, believes in and likes you," Mr. Burger said. He had some suggestions for improving telephone manners by retailers, as follows:

"(1) Answer the telephone on the first ring. (2) Identify yourself. (3) Speak directly into the telephone. (4) Give the caller your full attention; don't continue a side conversation. (5) Say 'May I tell him who called?' or 'Would you mind giving me your name?' (6) Make as good impression on the telephone as you do face to face. (7) Don't make the customer repeat; jot down the information as he gives it. (8) Be a good listener. (9) Come up with an answer quickly or otherwise let your caller know that you will call back. (10) When returning to the line, say 'thank you for waiting.' (11) Be prompt, courteous and businesslike."

As for the popular customer complaint of, "I can buy cheaper at XYZ Store," Mr. Burger had three alternatives in mind for the dealer: Give up, go broke by meeting the cheaper price or "fighting like hell —wake up and sell." He defined a salesman as "a guy who can sell without cutting the price."

"Character, industry, ability, courage and personality are the qualifications of the successful salesman," Mr. Burger explained. "The star salesman likes his work, uses 10% more effort than the non-successful one, does things that other salesmen don't like to do and constantly cultivates new prospects."

"More calls mean more sales," Mr. Burger stated. In a six-month sales contest, the Corneli company increased its number of calls by 46%, increased sales 36% and boosted volume 27%. Seventy percent of all new customers are sold on the second through the fifth calls, he said. Seven out of 10 were not sold on the first call in the Corneli contest, Mr. Burger said.

Fertilizer must compete with other items the farmer has to buy and therefore must remain a profit-making commodity if the fertilizer industry is to continue expansion and development. This was the statement of Dr. James S. Plaxico, agricultural economics department, Oklahoma A&M College, who discussed "Economic Aspects of Fertilizer."

"When the farmer buys fertilizer it must be the best buy for him at that moment as it competes with farm machinery and other needs," Dr. Plaxico said. He praised the industry for its efficiency, stating that fertilizer has gone up less percentage-wise in recent years than hired labor, farm real estate, buildings, farm vehicles and farm real estate taxes.

Dr. Plaxico said experience has shown that good farm managers can economically afford more fertilizers than poor managers. "Dealers are in an excellent position to help poor managers improve and thereby become better customers," he added.

Oklahoma, like most other Midwest states, is ideally situated to benefit from fall fertilization, soid Dr. L. B. Nelson, head of the eastern soil and water management section, Agricultural Research Service, Beltsville, Md.

In discussing "Off-Season Application of Fertilizer," Dr. Nelson stated that Oklahoma's hay, grass, legume and wheat acreages and all fall seedings are well suited for fall fertilization.

"Hay is the neglected crop for fertilization. Hay is not a surplus crop and—together with pasture land—holds the greatest potential for evened sales of fertilizer in Oklahoma and many other states," Dr. Nelson claimed.

Dr. Nelson felt that the liming program in the U.S. "has gone to pot. The nation has gone ahead on the fertilization program but has neglected lime. "To make efficient use of fertilizer, especially phosphate, limi

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necessary. Lime should be sold, ong with fertilizer, and we—exten- on people, manufacturers and deal- s—must push lime in areas where e have acid soils," Dr. Nelson de- ared.

Dr. Nelson was a speaker on pro- ams of both the dealers' conference nd the crops and soils meeting. He is esident of the Soil Science Society America and has been active in il management and irrigation re- arch projects in many states across e nation.

Other speakers at the dealers' con- rence included Jack Tyler, Dowell- yler Fertilizer Co., Stillwater, Okla., ho discussed service aspects in fer- lizer sales as experienced from his tail firm's operations, and William Sallee, Greer County agent, Man- m, Okla., whose topic was "Dealers nd County Agents Promote Wise Use Fertilizer." Gaylord Hanes, assist- nt extension agronomist, Oklahoma &M College, talked on "Fertilizer emonstrations Pay Dividends." A mplete report of these three talks ill appear in a coming issue of Crop- fe.

Parks Yeats, director of the Okla- oma seed, feed and fertilizer division, ported that 20% superphosphate nd 5-10-5 were the leading grade and aterial in order of predominance uring 1955-56. Next were 10-20-10 nd ammonium phosphate. Monthly ovements of fertilizer reach peaks uring the September-October and arch periods each year, he said.

Dr. Hugo Graumann, research gronomist, U.S. agricultural research rvice, keynoted the crops and soils nference, speaking on the latest re- arch findings for improved alfalfa oduction.

"The principal object of alfalfa re- arch at experiment stations is to velop disease and insect resistant arieties having good hay quality and gh seed yield," Dr. Graumann said.

Researchers have had good results n varieties resistant to bacterial wilt nd the value of this type of alfalfa to rmers "currently exceeds $100 mil- on annually," Dr. Graumann stated.

Lahontan variety of alfalfa, cur- ntly being tested in Oklahoma, has own good resistance to the spotted lfalfa aphid, according to Dr. Grau- ann.

Jay Porterfield, agricultural en- gineer at Oklahoma A&M College, said that a new type of seed bed for cotton has produced satisfactory stands in 22 out of 24 plantings whereas standard plantings have produced similar good results in only 10 of 24 cases. The new meth- od has two water furrows on each side of the seed bed and a slightly elevated mound in the middle for the plants.

Oats and barley are good running ates for wheat in Oklahoma, said r. A. M. Schlehuber, Oklahoma A&M gronomist. Good management— hich includes fertilization—will pro- uce between 70-80 bu. of winter oats r acre in Oklahoma, he said.

A guest speaker at the crops and ils conference's opening session was r. Oliver S. Willham, president of klahoma A&M College. Two movies, The Making of a Miracle," and What's in the Bag," produced by the ational Plant Food Institute, were own.

Hosts at a social hour prior to the nquet were the following firms: merican Cyanamid Co.; Grand River emical Division, Deere & Co.; Mon- nto Chemical Co., Phillips Petrole- n Co., and Spencer Chemical Co.

A banquet on the evening of Nov. was attended by 136 persons who ard Dr. George S. Benson, presi- nt, Harding College, Searcy, Ark., ake a plea for positive action by mericans in behalf of a Christian y of life and private enterprise. We need to reaffirm our faith in d, our faith in constitutional gov- nment and the private enterprise onomy, for "these are the things at make America click," said Dr. nson.

CORN BELT

(Continued from page 1)

aspect is based on the fact that if this alternative is accepted through a two-thirds vote of approval by the corn farmers, it would mean an end to future acreage allotments for the commercial corn belt through the corn crop planted in 1959. At the same time, the commercial corn belt farmer would be subject to price support of USDA at the discretion of the Secretary of Agriculture during those years, though still eligible for soil bank payments.

No doubt there is a wide area of uncertainty for other corn crop years following 1957 if the farmers adopt the base acreage proposal of price support at $1.31 (for 1957 only) with the corn acreage reserve phase of the soil bank available at 90¢ bu. times yield per acre for soil bank commitments.

It is the safe opinion here on which sellers to the farm community may gear their sales plans for the 1957 crops of small grains, soybeans and cotton, that the next crop price support level will be reduced particularly for the non-allotment acreage crops so that this crop land will not be attractive for land use which otherwise would or might go into the soil bank.

This makes corn a stand-out possibility for the plant food industry where the cost-reducing potential per acre yield may, through a more adequate use of plant food nutrients, offset the cost squeeze on the corn farmer.

No matter which way the corn referendum may go, the decision made by the commercial corn belt on Dec. 11 will make it certain that the corn farm community can cash in on heavier per acre yields for corn for the 1957 crop year.

There is the center of the sales target for the plant food industry in 1957. The watchword may well be—"watch the corn referendum—and gear your sales emphasis on that community."

In a parallel story in this edition of Croplife, there appears a digest of opinions of the top flight economists of USDA which set forth an analysis of the year ahead and the next ten years. All of these are favorable to the fertilizer industry.

These analyses are not always straight up into the far blue above, but at the same time they are the most favorable indication to the plant food merchant, that his prospects are good for the years ahead.

MORE LIME NEEDED

ST. PAUL—Crop fields in Minnesota are getting only 12% as much lime as they need, according to John Grava, soils scientist at the University of Minnesota, who says that some 6 million acres of cropland need liming in the state. While there should be 3.5 million tons of lime applied in the state annually, Minnesota cropland is getting less than half a million tons each year.

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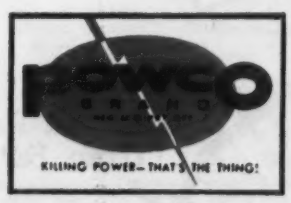

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A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Midwestern states.

Industry Fights Back at Freight Rate Increases

The Interstate Commerce Commission may turn a deaf ear to the plea made by the fertilizer industry to exempt the movement of plant food materials from an expected rail freight increase, but we think the testimony presented by the industry certainly has a strong case to consider.

In the recent hearings in Kansas City, representatives of the fertilizer industry told the ICC flatly that the industry cannot possibly absorb additional expense brought about by higher freight rates. Likewise, it is impossible to pass on such a hike to the farmers who are already in a difficult price squeeze. The alternative, fertilizer spokesmen said, to depend more upon highway trucks and water transportation wherever they can be utilized.

Various expert witnesses explained to the ICC that since the fertilizer trade is a highly competitive one, prices are relatively low. Furthermore, the prosperity of the entire industry is closely tied to that of agriculture in general. All of these factors have led to low profit margins throughout the industry, particularly in the face of having to absorb many increases in labor rates, increased costs of materials and transportation costs.

Obviously, there must be a limit to how much additional cost an industry can absorb. We are about at that limit now, the spokesmen declared.

The traffic manager of one prominent company stated that his firm, in common with the experience of most of the others in the trade, had seen sales decline in the past year, and with this condition, a drop in both gross and net profit.

He warned the rail carriers that "The present condition of the farm economy and our financial situation would indicate that greater diversion of traffic to lower cost carriers would have to be achieved, along with other economies, for us to continue in business, should any increase in rail rates be permitted. Consequently, such an increase would probably fail to provide any increase in gross or net revenues to the carriers."

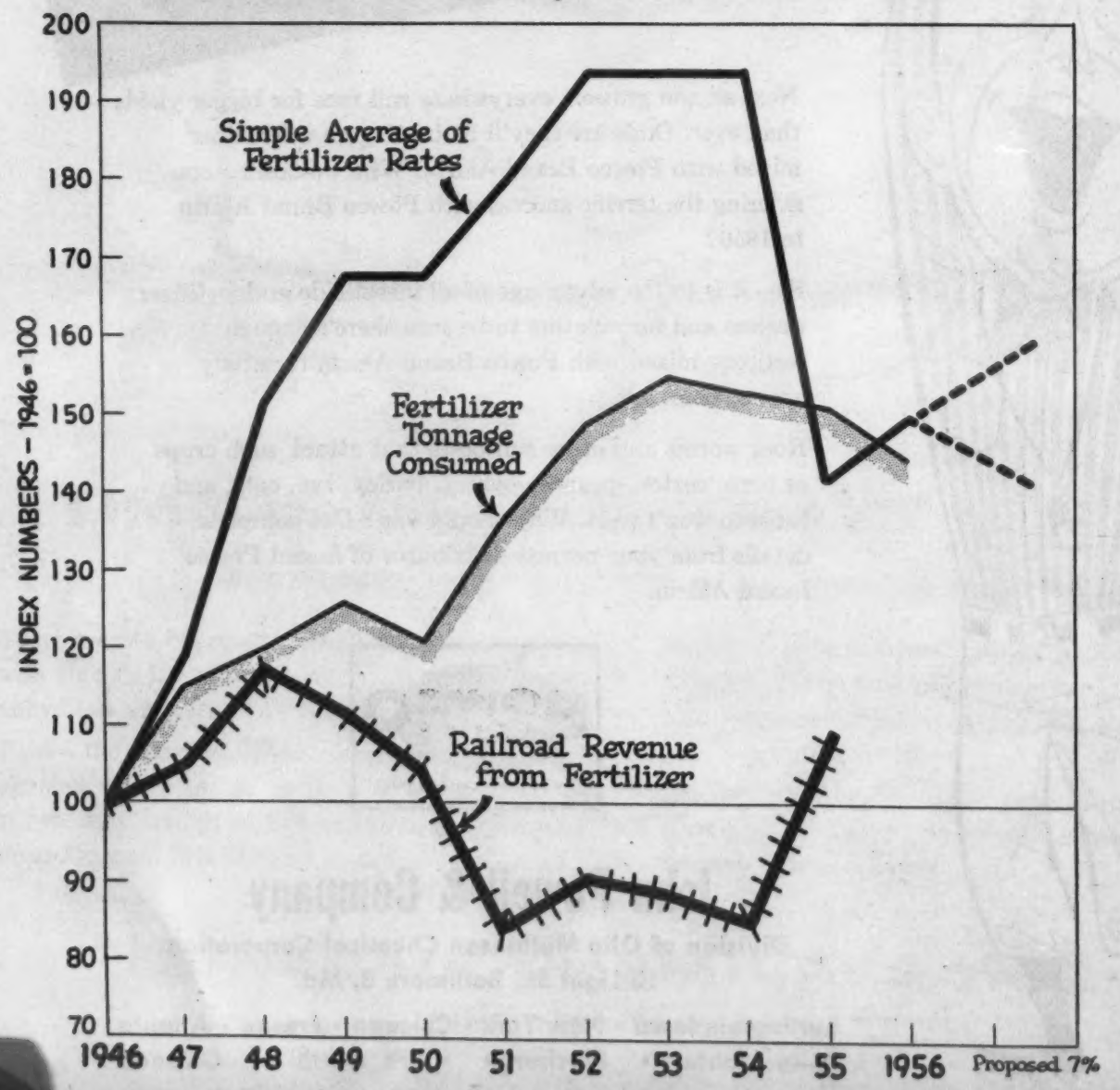
This idea of diverting more and more tonnage away from the railroads was voiced by other witnesses, too. The traffic director of another large fertilizer company pointed out that freight rate increases over the past five years have caused the fertilizer industry to seek lower cost transportation by shifting from rail to truck or to barge and steamship, wherever savings in freight could be effected... "Any further increase in freight rates will only cause more diversification of traffic consisting of fertilizer and fertilizer materials to other means of transportation and a further loss of revenue to the rail carriers," he warned.

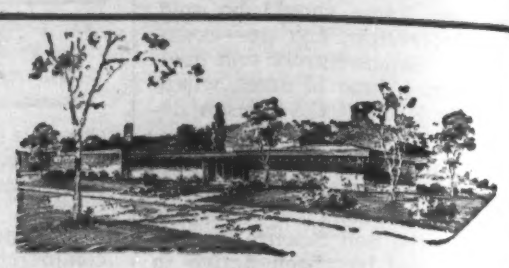
In considering the matter of potash, it appears that rates could actually be lowered on this commodity. This product, mined in New Mexico, is for the most part shipped in trainload lots straight through to eastern points with a minimum of handling and switching by the carriers. This is a most profitable type of payload for the rail carriers, and makes any increase in rates an injustice.

It is highly possible that the railroads, if freight rates are allowed to be raised, may find themselves with decreased tonnage and thus less revenue from the fertilizer industry.

The chart reproduced below, part of the testimony of Robert T. Smith, traffic director of Davison Chemical Co., div. W. R. Grace & Co., shows plainly the way the pattern runs.

Relation of Fertilizer Rate Level to Railroad Revenues Derived From Fertilizer and Consumption of Fertilizer from 1946





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CROPLIFE is a controlled circulation journal published weekly. Weekly distribution of each issue is made to the fertilizer manufacturers, pesticide formulators and basic chemical manufacturers. In addition, the dealer-distributor-farm adviser segment of the agricultural chemical industry is covered on a regional (crop-area) basis with a mailing schedule which covers consecutively, one each week, four geographic regions (Northeast, South, Midwest and West) of the U.S. with one of four regional dealer issues. To those not eligible for this controlled distribution Croplife subscription rate is $5 for one year ($8 a year outside the U.S.). Single copy price, 25¢.

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MEETING MEMOS

1957

Jan. 10-11—Annual Pesticide School, North Carolina State College Union, Raleigh.

Jan. 15-17—North Carolina Pest Control Operators' Short Course, College Union, Raleigh, N.C. Clyde F. Smith, head, Dept. of Entomology.

Feb. 14-15—Middle West Soil Improvement Committee, Edgewater Beach Hotel, Chicago. Zenas H. Beers, 228 N. LaSalle St., Chicago, executive secretary.

EDITOR'S NOTE: Listings above are appearing in this column for the first time this week.

Dec. 10-12—13th Annual North Central Weed Control Conference, Sherman Hotel, Chicago.

Dec. 11-12—Peninsula Horticultural Society, 70th annual meeting, Capital Grange Hall, Dover, Del.

Dec. 12—American Society of Agricultural Engineers, Power and Machinery Section, in Cooperation with the National Joint Committee on Fertilizer Application, Edgewater Beach Hotel, Chicago.

Dec. 13-14—Ohio Fertilizer and Lime Conference, State Office Building, Columbus, Ohio.

Dec. 13-14—Soil Fertility and Plant Nutrition Short Course, University of Missouri, Columbia, Mo.

Dec. 13-14—Cotton Production Conference, The Titwiler, Birmingham, Ala.

Dec. 27-31—Entomological Soicety of America, Annual Meeting, Hotel New Yorker, New York City.

1957

Jan. 8-9—Texas Fertilizer Conference, Texas A&M, College Station, Texas.

Jan. 9-10—Eleventh Annual Wisconsin Insect Control Conference, Sponsored by the Entomology Dept., University of Wisconsin, Loraine Hotel, Madison, Wis.

Jan. 10-11—Mississippi Insect Control Conference, third annual meeting, Mississippi State College, State College, Miss.

Jan. 10-12—Northeastern Weed Control Conference, McAlpin Hotel, New York.

Jan. 15-16—Georgia Plant Food Educational Society, Fourth Annual Meeting, University of Georgia, Athens, Ga., Joint Meeting with Georgia Section, American Society of Agronomy.

Jan. 15-16—Nebraska Fertilizer Institute, Inc., College of Agriculture, University of Nebraska, Lincoln. Howard W. Elm, 917 Trust Bldg., Lincoln, Neb., executive secretary.

Jan. 17—Second Annual Western Oregon Fertilizer Dealers Meeting, Withycombe Hall, Oregon State College, Corvallis, Ore.

Jan. 21-25—Pacific Northwest Vegetable Insect Conference and Northwest Cooperative Spray Project, Imperial Hotel, Portland, Ore.

Jan. 22-24—California Weed Conference, Fresno Memorial Auditorium, Fresno, Cal. Conference headquarters, Hotel Californian.

Jan. 23-24—Fourth Annual Pacific Northwest Agricultural Chemicals Industry Conference, Benson Hotel, Portland, Ore., Sponsored by Western Agricultural Chemicals Assn., C. O. Barnard, 2466 Kenwood Ave., San Jose 28, Cal., Executive Secretary.

Jan. 23-25—Southern Weed Conference, Bon Aire Hotel, Augusta, Ga.; Walter K. Porter, Jr., Agricultural Experiment Station, Louisiana State University, Baton Rouge, secretary.

Jan. 24-25—Illinois Custom Spray Operators' School, Illini Union, University of Illinois campus. H. B. Petty, extension entomologist.

Jan. 28-29—National Cotton Council of America, Annual Meeting, St. Louis, Mo.

Jan. 31-Feb. 1-2—Agricultural Aircraft Assn., Annual Convention, Senator Hotel, Sacramento, Cal., Wanda Branstetter, Route 3, Box 1077, Sacramento, Executive Secretary.

Feb. 4-6—Cotton States Branch, Entomological Society of America, Birmingham, Ala. W. G. Eden, secretary-treasurer, Alabama Polytechnic Institute, Auburn, Ala.

Feb. 19-20—Alabama Pest Control Conference and First Annual Meeting of the Alabama Association for the Control of Economic Pests, Auburn, Ala., W. G. Eden, Alabama Polytechnic Institute, Auburn, secretary-treasurer.

Mar. 4-5—Western Cotton Production Conference for 1957, Westward Ho Hotel, Phoenix, Ariz.

March 6-8—National Agricultural Chemicals Assn., Spring Meeting, Fairmont Hotel, San Francisco, L. S. Hitchner, 1145 19th St. N.W., Washington, D.C., Executive Secretary.

March 11-12—Southwestern Branch, Entomological Society of America, Annual Meeting, Gunter Hotel, San Antonio, Sherman W. Clark, 811 Rusk Ave., Houston 2, Texas, Secretary-Treasurer.

March 27-29—North Central Branch of Entomological Society of America, Annual Meeting, Des Moines, Iowa.

June 9-12—National Plant Food Institute, annual meeting, Greenbrier Hotel, White Sulphur Springs, W. Va.

June 17-19—Fifteenth Annual Convention of the Association of Southern Feed and Fertilizer Control Officials, Dinkler-Tutwiler Hotel, Birmingham, Ala., Bruce Poundstone, Kentucky Agricultural Experiment Station, Lexington, Ky., Secretary-Treasurer.

June 23-26—American Society of Agricultural Engineers, Golden Anniversary meeting, Michigan State University, East Lansing, Mich.

June 26-28—Eighth Annual Fertilizer Conference of the Pacific Northwest, Benson Hotel, Portland, Ore. B. R. Bertramson, Washington State College, Pullman, Wash., chairman.

July 17-19—Southwestern Fertilizer Conference and Grade Hearing, Galvaz Hotel, Galveston, Texas.

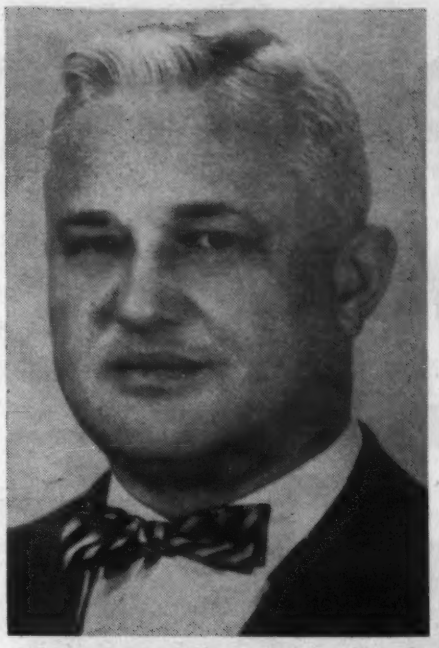
Oct. 2-4—Eleventh annual Beltwide Cotton Mechanization Conference, Shreveport, La.

United Heckathorn Acquires Two Crop Dusting Services

SAN FRANCISCO—United Heckathorn, Richmond, Cal., recently expanded its aerial services with the acquisition of two new crop dusting firms.

Pete Cherian, in charge of aerial operations for the firm, announced that Mrs. Daisy Walsh's crop dusting service in Woodland, Cal., had been purchased along with the five airplanes she had owned.

The other service, Diablo Dusters, in Brentwood, Cal., was purchased from J. M. Morrison who had been using four Stearman aircraft which were included in the sale, Mr. Cherian said.



John F. Ovsik

VULCAN PROMOTION—John F. Ovsik has been promoted to director of purchases for Vulcan Containers Inc., according to Vern I. McCarthy, president. As director of purchases, he is responsible for buying steel, paint and other materials the 40-year-old Bellwood, Ill. firm uses in manufacturing a wide variety of pails in the steel shipping container industry. Vulcan's Steel Pail and Tin Plate Divisions currently produce containers for some 3,000 companies representing 25 industries throughout the Midwest. Prior to joining Vulcan's purchasing department two years ago, Mr. Ovsik operated a children's clothing manufacturing firm. From 1941 to 1949 he was assistant purchasing agent for National Malleable & Steel Castings Co.

Hooker, Oldbury Consolidation Approved

NIAGARA FALLS, N.Y.—Stockholders of Hooker Electrochemical Co. and Oldbury Electrochemical Co. approved consolidation of Oldbury into Hooker at special meetings Nov. 29 at the companies' respective headquarters in Niagara Falls, N.Y. For the present, Oldbury will be operated as a division of Hooker.

Hooker produces five basic chemicals: chlorine, caustic soda, caustic potash, phenol and hydrogen, sold to industrial users and used by Hooker in its manufacture of more than 100 other chemicals. The company also produces a broad line of phenolic and polyester resins and plastic molding compounds. Oldbury is a producer of phosphorus, phosphorus compounds, chlorates, perchlorates, oxalic acid and perchloric acid.

Classified Ads

Classified advertisements accepted until Tuesday each week for the issue of the following Monday.

Rates: 15¢ per word; minimum charge $2.25. Situations wanted, 10¢ a word; $1.50 minimum. Count six words of signature, whether for direct reply or keyed care this office. If advertisement is keyed, care of this office, 20¢ per insertion additional charged for forwarding replies. Classified advertising rate not available for commercial advertising. Advertisements of new machinery, products and services accepted for insertion at minimum rate of $9 per column inch.

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Bemis Expansion

MINNEAPOLIS—Bemis Bro. Bag Co., St. Louis, Mo., has announced plans to build a $60,000 addition to its research facilities in Minneapolis to make room for enlarging its materials and testing laboratory.

The new area will house a pilot plant for producing small commercial quantities of new or improved products, said Harold B. Kindseth, Bemis research director.

The research staff will be increased from the 36 employees it has at present to 50 or 60.

RAT DAMAGE

MANHATTAN, KANSAS—One rat can do more than $20 damage in a year, according to George Halazon, Kansas State College.

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V-C FERTILIZERS ®

The best grade PRECISION-MADE for YOUR crop

This is the theme of a big, new, hard-hitting, sales-producing, advertising campaign directed to millions of farmers in many states to help V-C Dealers sell a complete line of V-C Fertilizers.

Full-page, color ads are now appearing regularly in leading farm magazines urging farmers to *See Your V-C Dealer* for V-C Fertilizers ***precision-made*** in the right grades to fit farm needs.

Biggest radio campaign in V-C history will hit with terrific impact at the peak of the fertilizer buying season with daily broadcasts telling your customers to buy early and take prompt delivery of V-C Fertilizers.

Roadside billboards with big, attractive, colorful posters, strategically placed along country roads and highways add their sales-power to the V-C campaign, constantly reminding farmers that ***precision-made*** V-C Fertilizers are the best buy.

Powerful advertising support is only one reason why it pays to be a V-C Dealer. V-C offers a complete line of many different grades and analyses of fertilizers to supply your customers' every need. Every bag is backed by all the facilities of a national organization with more than 60 years of manufacturing experience, technical skill, scientific research and practical farm know-how. It's easy to see why V-C Dealers are the most loyal in the fertilizer industry.

Virginia-Carolina Chemical Corporation

401 East Main Street, Richmond 8, Virginia

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